

In response to Bauer's summary judgment motion and argument that the injury could only occur if the top of the head strikes first, the Mohneys emphasized a prior case involving the same manufacturer and the same defense expert. *Moore v. Cooper Canada Ltd.*, (Ontario Supreme Court 1990). Defense expert, Dr. Patrick Bishop, testified in the *Moore* case and was retained as an expert witness by Bauer in the case at hand. The *Moore* case provided Bauer with notice of a product liability theory of a heads-up impact with rotation resulting in a cervical fracture. This knowledge is directly contrary to the holding of the Court of Appeals that Bauer did not know, nor could they have known, a head protection system could cause a spinal cord injury to a player who goes into the boards face first. (App. 24a). Dr. Bishop testified in the *Moore* case that the initial point of impact was not important so long as the body was ultimately positioned in critical alignment long enough for the force of the torso movement to crush the neck.

Levi Mohney's helmet was manufactured with pre-drilled holes for the attachment of a mask. Bauer manufactured clips to be placed on each side of the helmet to hold the mask. It was undisputed that the mask was not compatible with the helmet and resulted in an asymmetrical attachment. (App. 4a). The mask extended 35 millimeters from the helmet, which increased the downward torque on Levi Mohney's head at impact. The mask extended well beyond the 19 millimeter limit established by the ASTM Standards. One of the Bauer clips holding the mask dislodged either at impact or vibrated loose as Levi Mohney skated. Norman Johanson's report described the design defects, which resulted in the failure of the clip. (App. 93a-106a). The failure of the clip resulted in the

destruction of the equilibrium of the horizontal and vertical forces on the mask which caused the vertical force component to become dominant and rotate Levi Mohnney's head downward. The analysis of the rotation is found in the reports authored by Dr. Richard Collins. (App. 107a-142a).

The opinions of Norman Johanson and Dr. Collins were the subject of Bauer's *Daubert* motion. The district court held that Mr. Johanson was qualified as an expert in mechanical engineering (App. 10a) and that Dr. Collins was qualified in the field of bio-mechanical engineering. (App. 8a). Mr. Johanson opined that the incompatibility of the helmet and mask resulted in the full engagement with one clip holding the mask on the helmet but only minimal engagement with the other clip. (App. 99a). This exacerbated a pre-existing loose fit of the screw-nut combination affixing the clips to the helmet. The yielding of the mask redistributed the forces which resulted in the load being applied to the top of Levi Mohnney's head.

The district court denied Bauer's motion to exclude Mr. Johanson's testimony on the issue of the incompatibility of the helmet and mask and granted their motion to exclude his testimony on the immediate release of one clip. The exclusion was based on the testing Mr. Johanson conducted. (App. 48a-50a). The district court excluded all of Dr. Collins' opinions. The district court found that Dr. Collins could not rely on the abrupt release of the clip because Mr. Johanson's opinion on that issue was not admissible. (App. 54a).

The three (3) reports Dr. Collins submitted (App. 107a-142a) and his testimony during the *Daubert* hearing describe his method and analysis of how the yielding of the mask resulted in the redistribution of forces acting on Levi Mohnney's head. The dissipation of

the horizontal force caused the vertical force to dominate which moved Levi Mohnney's head from a face first position to a crown position. The load to the crown caused a burst fracture at the C5 - C6 level of the spine. Dr. Collins' method included measurements and calculations which were based on Newton's Laws of Physics. The district court found that the dislodging of one clip either before or at the time of initial impact was critical to Dr. Collins' conclusions and an "underpinning" for which he must rely on the opinion of Mr. Johanson. (App. 50a-51a).

Dr. Collins found the extension of the mask beyond the limit of ASTM Standards increased the downward torque on Levi Mohnney's head. (App. 124a). Dr. Collins authored a second supplemental report, which the district court described as an illustrative quantitative analysis and quantitative assessment grounded in Newton's Laws of Physics. (App. 52a-53a).

All of Dr. Collins' opinions were excluded because they relied on Mr. Johanson's opinion on the abrupt release of the clip and various "shortcomings" the court found with them. The "shortcomings" involved Dr. Collins' testimony that Levi Mohnney's actual speed may have been more than the rate of speed he used in his analysis. The variance in the actual rate of speed would not change Dr. Collins' conclusion nor does this difference in one input factor (the rate of speed) establish that Dr. Collins' calculations were unreliable.

The experts retained by Bauer have not refuted Dr. Collins' calculations. They suggest Levi Mohnney hit the boards with his head down and the analysis of a face first impact is irrelevant. The dispute over the initial point of impact is a factual dispute and Bauer's position is contrary to the images of the impact (App. 149a-

150a), the affidavit of Levi Mohny's treating physician, the physical evidence on the helmet, Dr. Funk's affidavit and the affidavits of two (2) eyewitnesses.

Upon excluding the evidence on causation, the district court granted Bauer's summary judgment motion. The district court also granted Bauer's summary judgment motion on the product liability and failure to warn claims. No warning was provided to avoid impacts to the top of the head. The helmet did not have a warning or instructions concerning the type of mask that should be attached, appropriate hardware and proper installation. (App. 4a). No such warnings were provided even though Bauer had knowledge that young players were mixing and matching helmets and masks from different manufacturers. (App. 89a).

The Sixth Circuit affirmed the opinion of the lower court in all respects. The opinion of the Sixth Circuit was authored by Senior District Court Judge Lawrence P. Zatkoff of the Eastern District of Michigan who was sitting by designation. A cornerstone of the Court of Appeals opinion was that the calculations of Dr. Collins were based on a series of assumptions including the "theory" of Mr. Johanson that the clip holding the mask in place abruptly released on impact. The Mohnys filed a timely petition for rehearing with the Sixth Circuit, which was denied on October 21, 2005.

## **REASONS FOR GRANTING THE WRIT**

### **I. THE DECISION OF THE SIXTH CIRCUIT DIRECTLY CONFLICTS WITH PUBLISHED DECISIONS CONCERNING THE ADMISSIBILITY OF EXPERT ENGINEERING TESTIMONY**



Pursuant to Supreme Court Rule 10(a), there is a compelling reason to grant this Petition for Writ of Certiorari. The decision in this case is in direct conflict with a published decision from the Sixth Circuit that expert engineering testimony is admissible if the engineer reviewed the physical and factual information available and applied standard engineering principles to determine the most probable sequence of events. *Clay v. Ford Motor Co.*, 215 F.3d 663 (6<sup>th</sup> Cir. 2000). In *Clay*, the opinions of an engineer were admitted on the basis that the engineer used dynamics to analyze product design and motion.

The lower court opinions in this case refer to Dr. Collins' calculations as suspect and unreliable. (App. 8a). The lower court also found a "shortcoming" with an input factor (the rate of skating speed) based on Dr. Collins' statement at the *Daubert* hearing that the actual rate of skating speed may have been more than the rate he used in his analysis. The use of an erroneous number or input factor goes to the weight of expert testimony and not the reliability or admissibility. Dr. Collins' second supplemental report, notes that the skating speed was an approximation based on the distance traveled prior to impact. (App. 130a). The use of an approximate speed does not affect Dr. Collins' ultimate conclusion of what caused Levi Mohny's head to rotate toward his chest. Defense expert, Patrick Bishop, testified at his deposition that the speed did not matter in forming his opinions. Dr. Bishop explained that studies showed forces could be exerted on the neck at speeds as low as 1.8 meters per second. Dr. Collins applied standard engineering principles to the facts that were available. Dr. Collins was cross-examined extensively at the *Daubert* hearing and his testimony establishes that the issues raised by

defense counsel would not change his conclusions as his analysis was well within a reasonable range of parameters.

The use of calculations to determine outcomes is what engineers do. Engineers predict resultant motion by using input values within an acceptable range. The use of calculations to arrive at a conclusion is recognized as the valid method in the field of engineering. The reason for this is obvious. Some incidents, like a hockey player crashing into the boards, are impossible to recreate. This case was to be decided under Ohio product liability law. The issue of whether an incident could be replicated was raised by the manufacturer of a football helmet in a product liability case brought by a paralyzed high school football player. *Miller v. Bike Athletic Company*, 687 N.E. 2d 735 (1998). The Supreme Court of Ohio, in *Miller*, reversed the entry of judgment for the helmet manufacturer. The Court focused on the principles and methods and whether they were reliable rather than the conclusions. *Miller, Id.*, citing *Staff Notes to Evid. R. 702*. The Supreme Court of Ohio recognized that it would be virtually impossible to recreate the conditions present at the time the football player was paralyzed. The Supreme Court of Ohio noted that a plaintiff rarely would be able to overcome an opponent's Motion for Summary Judgment if such a standard was used.

Since deciding *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), the United States Supreme Court has revisited the issue of the admissibility of expert testimony only on only a few occasions. This Petition for Writ of Certiorari should be granted so that the United States Supreme Court may provide direction concerning the standard that should be applied to expert engineering opinions. Specifically,

whether engineering opinions may be admitted where they are based on calculations and analysis that is recognized in the engineering community. The district court found the calculations of Dr. Collins to be suspect without explaining how the supposed flaws establish the method to be unreliable. (App. 8a).

Since the *Daubert* decision, federal courts have been flooded with challenges to expert testimony. The *Daubert* decision stated that Rule 702 is the appropriate standard to follow rather than the common law *Frye* test, which required expert scientific evidence to be based on general acceptance in the scientific community. Dr. Collins and Mr. Johanson considered the facts of record and applied standard engineering principles to them. Rule 702 establishes that scientific, technical or other specialized knowledge is admissible if (1) the testimony is based on sufficient facts or data (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

In *Clay v. Ford Motor Company*, 215 F.3d 663 (6<sup>th</sup> Cir. 2000) expert testimony was offered by an engineer related to a rollover accident. The expert reviewed the physical and factual information available and applied standard engineering principles to determine the most probable sequence of events. The expert did no testing and never published an article on vehicle handling. The expert, in *Clay*, was found to have based his opinions on the application of standard engineering principles to the information available.

The use of equations to predict resultant motion is the standard practice in the field of engineering. The decision in this case is in conflict with the decision in the *Clay* case. The failure of the opposing expert to refute the calculations and the principle that dynamics can be

used to analyze product design and predict the resultant motion were critical factors in support of admissibility in the *Clay* case. The reports offered by the defense experts do not refute Dr. Collins' calculations. Dr. Bishop ignored the analysis of a face first impact on the assumption the top of Levi Mohny's head hit first. The reports of the defense experts are based on assumptions that are contrary to the evidence of record. Dr. Bishop testified that the analysis concerning the extension of the mask didn't matter because the crown of the head hit first. Dr. Bishop also testified he did not consider the ASTM Standards in reaching his conclusions. Dr. Bishop was not aware of the physical evidence on the helmet as he never saw the helmet when he formed his opinions. Dr. Bishop did not disagree with the components of the force vector in Dr. Collins' calculations. Dr. Bishop testified that in forming his opinions, speed did not matter. The district court focused on this input factor (speed) to exclude Dr. Collins' opinions. Dr. Bishop also admitted that the torque on the head, causing downward rotation, would depend on whether the vertical force vector controlled. Dr. Bishop did not create any calculations of his own to refute those of Dr. Collins. Rather, his opinion was based on his review of the enhanced tape and assumption Levi Mohny went into the boards horizontally and his crown struck first. Dr. Bishop testified at the *Daubert* hearing that he believed Levi Mohny's head, neck and body were almost parallel with the ice. Dr. Bishop's assumption is contrary to the actual images of the event. (App. 149a - 150a).

Norman Johanson provided his opinion, within a reasonable degree of mechanical engineering certainty, based on both the failure of the clip and the asymmetrical attachment of the mask to the helmet.

(App. 10a-11a). Norman Johanson considered the use of defective hardware to attach the clip and demonstrated how the thread class of the bolt allowed the nut to loosen by mere vibration. Norman Johanson performed a test in which he was able to loosen the fastener with simple vibration. The force exerted during his test was less than the force exerted during a hockey game.

In *Nemir v. Mitsubishi Motors Corp.*, 6 Fed. App. 266 (6<sup>th</sup> Cir. 2001), the trial court excluded expert testimony on the partial latching of a seatbelt. The expert tested the seatbelt by simply manipulating it in his hand. The Sixth Circuit reversed on the basis that *Daubert* and Rule 702 require only that the expert testimony be derived from inferences based on a scientific method and that those inferences be derived from the facts of the case at hand.

The *Nemir* case was before the Sixth Circuit on four occasions with another decision issued in 2004. *Nemir v. Mitsubishi Motors Corp.*, 381 F.3d 540 (6<sup>th</sup> Cir. 2004). The testimony concerning partial latching of the seatbelt was again considered. The district court found the expert's method of manipulating the buckle at varying speeds and angles was scientifically unsound. The Sixth Circuit held the point of the purposeful manipulation was to show that partial latching could occur under certain circumstances and the expert should have been permitted to testify as to causation and his testing of the buckle. In *Nemir*, the Sixth Circuit recognized that the simple manipulation of a seatbelt, by hand, was sufficient to demonstrate partial latching could occur. Mr. Johanson's vibration test established that he was able to loosen the screws holding the clip by simple hand motions. The decision in this case conflicts with the *Nemir* decision.



Rule 702 establishes that expert opinion testimony should be admitted where the witness has applied the principles and methods reliably to the facts. Rule 703 provides that the facts or data in the particular case, in which an expert bases an opinion or inference, may be those perceived by or made known to the expert at or before the hearing. The district court excluded the testimony of Dr. Collins, in part, because "the underpinning for which he must rely" is the opinion of Mr. Johanson that the clip dislodged either before or at the time of impact. The opinion of Dr. Collins was also excluded because of "shortcomings" the district court found. The shortcomings involved the input data and testing.

Any argument which is not directed at the validity of the methodology but that the specific numbers used were wrong goes to the weight of the evidence and is best exposed through cross examination at trial. *Quiet Technologies DC-8, Inc. v. Hurel-DuBois U.K Ltd.*, 326 F.3d 1333, 1345 (11<sup>th</sup> Cir. 2003). Any argument that mistakes in the data entered by an accident reconstruction expert that lead to an incorrect calculation do not justify the exclusion of the opinion. *Smith v. BMW North America*, 308 F.3d 913 (8<sup>th</sup> Cir. 2002).

The lower court substituted their judgment for that of a jury in holding Dr. Collins' calculations were suspect and unreliable. The decision in *General Electric Company v. Joiner*, 522 U.S. 136 (1997) provides insight on this issue. Therein, it was established that *Daubert* clearly forbids trial judges from assessing the validity or strength of an expert's scientific conclusions as this is a matter for the jury. Also, nothing in either *Daubert* or the Federal Rules of Evidence require a district judge to reject an expert's

conclusions and keep them from the jury when they fit the facts of the case and are based on reliable scientific methodology.

The decision in *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999) emphasized *Daubert's* flexible approach and recognized that the factors bearing on reliability determinations may vary depending on the field. Therefore, the expert should conduct his or her analysis under the same standards for "intellectual rigor" that generally prevail in the expert's field. Dr. Collins' analysis is based on Newton's Laws of Physics which is recognized as a valid scientific method. (App. 8a). Dr. Collins inspected the hockey helmet, viewed the videotape, performed measurements of the helmet and mask and incorporated his observations and measurements into mathematical calculations. Dr. Collins followed the standards applied in his field. Dr. Collins' opinions were excluded on the basis that he did not attempt to replicate the incident or conduct technical or scientific testing of the helmet. (App. 8a-10a).

The *Daubert* decision does not establish that the court may exclude the opinions of an engineer if the opinions are based on calculations which are recognized as valid in the engineering profession. An expert engineering opinion should not be excluded if the opinion is based on sound engineering theories. *Ford v. Nationwide Mutual Fire Insurance Company*, 62 Fed. App. 6 (1<sup>st</sup> Cir. 2003). Liability determinations should consider whether the opinion is consistent with the evidence of record and the physical facts. *Harris v. General Motors Corp.*, 201 F.3d 800 (6<sup>th</sup> Cir. 2000). The *Harris* case involved a claim against General Motors based on a defective airbag. The plaintiff and a witness, in *Harris*, offered deposition testimony that the airbag

deployed after the accident. General Motors filed expert affidavits in support of their theory the airbag deployed at impact. General Motors argued that their affidavits established undisputed physical facts of when the airbag deployed. Just as the defense experts have argued in the instant case, the defense experts, in *Harris*, argued that the accident could not have occurred as the plaintiff alleged. The Sixth Circuit reversed the grant of summary judgment in the *Harris* case.

The issue of whether some direct force on the clip was necessary to cause it to fail at impact is a matter of common sense. Bauer's corporate designee admitted the clip could not fail as a result of a crown first impact. Defense expert, David Halstead, acknowledged that the clip could only be dislodged as a result of a face first impact. The hospital records reference a face first impact. Mr. Johanson and Dr. Collins provided testimony at the *Daubert* hearing concerning physical evidence that the clip was present. Mr. Johanson conducted a microscopic examination of the helmet. Mr. Johanson observed markings, which confirmed the missing clip was present. Mr. Johanson observed circular marks on the helmet liner, which evidenced the presence of the washer and nut holding the clip. Mr. Johanson also observed a hole in the foam liner of the helmet, which showed signs the fastener had pulled out. This physical evidence of a face first impact is relevant to whether the clip was present at impact or vibrated loose from the helmet prior to impact. The excluded vibration test of Mr. Johanson would be relevant to an injury scenario where the clip had already vibrated loose as Levi Mohney skated toward the boards. The question of whether Levi Mohney hit face first and whether the clip was still on

the helmet at impact are fact questions to be submitted to a jury. Factual inferences are to be resolved in favor of the non-moving party in deciding summary judgment motions.

Additional evidence of a face first impact is found in the affidavit of the treating physician, Dr. Ramnath. (App. 12a-13a). The images of the impact also establish that Levi Mohnney struck the boards heads up and then his head suddenly disappeared from view as a result of the downward rotation. (App. 149a-150a). Dr. Collins' analysis is the only analysis in this case which explains how the rotation of Levi Mohnney's head occurred.

The Advisory Committee Notes to the 2000 Amendments to Rule 702 confirm that the revised Rule is not intended to authorize a trial court to exclude an expert's testimony on the ground that the court believes one version of the facts and not the other. The rejection of expert testimony is the exception rather than the rule. The *Daubert* decision did not establish that the trial court's role of gatekeeper is intended to serve as a replacement for the adversary system.

## **II. RULE 702 REQUIRES EXPERT OPINIONS TO FIT THE FACTS**

All of the experts in this case agree that the injury occurred as a result of a load being applied to the crown of Levi Mohnney's head. The disputed issues of fact are what hit first and how was the load applied. The experts retained by the Mohnney family provided opinions which were consistent with the history in the medical records of a face first impact with rotation to the crown. The issues raised in this product liability case were whether the product failure/design and or

failure to warn caused the top of Levi Mohny's head to be subjected to the force that caused his spinal cord injury. Mr. Johanson explained that the helmet was defectively designed with fasteners that could release on impact. Mr. Johanson's inspection discovered pre-drilled mounting holes which resulted in an asymmetrical attachment of the hockey mask and subsequent clip failure. (App. 47a). Mr. Johanson also opined that Bauer failed to warn that the helmet was only compatible with certain masks and that use of a non-compatible mask may result in injury or death. The district court found that visual inspection was sufficient to demonstrate the helmet and mask fit together asymmetrically (App. 48a). Mr. Johanson's measurements were described as an objective assessment, which could be verified and critiqued and the testimony regarding the incompatibility had a reliable basis. (App. 48a).

The district court excluded Mr. Johanson's opinion regarding the dislodging of one of the clips used to hold the mask in place. (App. 48a). One of the two (2) clips that were present on the helmet was never recovered after the impact. Mr. Johnson reasonably assumed that the screws that held the missing right-hand clip in place had the same thread class as those remaining on the left-hand clip. This opinion was based on Mr. Johanson's visual inspection and observation. (App. 48a). Mr. Johanson conducted a test in which the hardware loosened merely by shaking the clip. (App. 49a). Mr. Johanson's test was held to be inadequate. (App. 12a).

Dr. Collins' opinions were based on mathematical equations, which describe how the abrupt release of the horizontal force resulted in the vertical force becoming dominant. This redistribution in force brought Levi



Mohney's crown into alignment with the hockey boards. (App. 107a-142a). Bauer's experts failed to refute Dr. Collins' equations and analysis. Rather, the defense experts opined that the crown of Levi Mohney's head struck first. (App. 5a). The opinions of the defense experts are contrary to the physical evidence, the affidavit of Levi Mohney's treating physician, the hospital room emergency room records, affidavits of eyewitnesses and enhanced images from the videotape. (App. 149a-150a).

Mr. Johanson described alternative theories that one of the two (2) clips manufactured by Bauer released at impact or was not present. (App. 5a). The district court concluded that Mr. Johanson's mechanical engineering opinion that the helmet and mask at issue were incompatible was admissible but that the testimony regarding the failure of the clip and release of the mask was not. The district court relied on this finding to exclude the opinions of Dr. Collins. Dr. Collins issued a supplemental report on July 30, 2002 (App. 123a-127a). The district court described the supplemental report to contain measurements regarding the extension of the mask from the helmet and a qualitative explanation of how the extension beyond the ASTM Standard contributed to the rotational forces on Levi Mohney's head. (App. 52a-53a). The report of October 16, 2002 (App. 128a-142a) was recognized to include illustrative, quantitative analysis which was grounded in Newton's Laws of Physics. (App. 53).

The question of whether the clip released abruptly at impact is a question of fact. Three (3) possible scenarios exist concerning the missing clip. The clip may have broken off at impact, vibrated loose prior to impact or simply may have been missing before

Levi Mohny took the ice. The vibration test Mr. Johanson performed is only relevant to the scenario that the clip vibrated loose during normal play. Therefore, Doctor Collins' opinions should not have been excluded. Mr. Johanson provided testimony at the *Daubert* hearing that a simple locking nut would have prevented the clip from dislodging at impact. The question of whether the clip was present or dislodged at impact is a question of fact.

The theory that the initial point of impact must have been to the top of Levi Mohny's head was provided by Dr. Patrick Bishop. This same expert testified in a prior case involving the same manufacturer. *Moore v. Cooper Canada, Ltd.*, (Ontario Supreme Court 1990). In the *Moore* case, the plaintiff contended the flat crowned design of a Cooper helmet caused the helmet to rotate to a crown presentation. The plaintiff in the *Moore* case testified that his head was up as he approached the boards and that the initial point of impact was in the area of his hairline. As in the case at hand, Dr. Bishop testified in the *Moore* case that he believed the initial point of contact was in the crown area. Dr. Bishop admitted in the *Moore* case that the initial point of impact was unimportant as long as the body was ultimately positioned in critical alignment long enough for the force of the torso movement to crush the neck. This admission was ignored by the lower courts. This admission is contrary to the holding of the Sixth Circuit that Bauer did not know nor could have known that a player could suffer a spinal cord injury as a result of a face first impact. (App. 24a). Mr. Johanson and Dr. Collins provided reliable analysis that the rotation occurred as a result of the product design and/or product failure. The analysis used is recognized as reliable in the field of engineering. The opinions of

Mr. Johanson and Dr. Collins were the only opinions offered in this case which were based on the actual evidence and should have been admitted as they satisfy the standards established by Rules 702 and 703 of the Federal Rules of Evidence.

### **III. AFFIDAVITS SUBMITTED IN RESPONSE TO BAUER'S SUMMARY JUDGMENT MOTION WERE IMPROPERLY EXCLUDED**

In response to Bauer's summary judgment motion, the Mohneys filed the affidavits of Daniel Funk, M.D. and Dr. Ramnath. Dr. Funk was retained by the Mohneys prior to Mr. Johanson being retained. Following the remand of this case by the Sixth Circuit it was decided that Dr. Collins would work with Mr. Johanson as they worked at the same consulting firm. Mr. Johanson and Dr. Collins filed their expert reports in 2002. (App. 93a -140a). Plaintiff's initial disclosure of experts was filed with the clerk in September 2001. Dr. Funk was listed as an expert and a copy of his affidavit of June 25, 1998 was attached. (App. 143a-148a). The initial designation of experts also listed the treating physicians as medical experts. (App. 142a).

Dr. Funk examined the helmet and noted physical evidence of Levi Mohny striking the boards in a heads-up position. (App. 144a). Dr. Funk concluded the failure of the right clip fastener contributed to the rotation of Levi Mohny's head. (App. 145a). Dr. Funk found the mask extended beyond the confines of the helmet and therefore away from the mechanical center of rotation of the cervical spine. The design of the mask and helmet assembly increased the mechanical leverage arm and the forces applied to the spine. (App. 145a).

Rule 56(e) of the Federal Rules of Civil Procedure requires that affidavits submitted in opposition to a motion for summary judgment must be sworn upon personal knowledge; must state specific facts admissible in evidence at the time of trial; and must be offered by a competent affiant. The district court excluded paragraphs 9-11 of Dr. Ramnath's affidavit (App. 12a-17a). The history and physical stated: "This seventeen year old man was playing hockey at approximately 11:00 this morning and was thrown face forward into the boards, striking his face against the boards." (App. 12a). Paragraph 9 of the affidavit describes a face first impact and rotation to the crown. Paragraph 10 indicated the history is consistent with a facial impact and rotation to a crown presentation. Paragraph 11 stated the injuries were consistent with the history and physical findings of the injury recorded in the medical records of Flower Hospital, and with the tape of the accident. Paragraphs 9-11 of Dr. Ramnath's affidavit were excluded because the court found them to be based, in part, on a review of the videotape.

The affidavit of Dr. Ramnath was based on his personal knowledge as a treating physician. The affidavit of Dr. Funk was based on his examination of the helmet and evidence of record. These affidavits were clearly admissible to respond to the argument that Levi Mohnney did not strike the boards face first but crown first. As the defense theory that Levi Mohnney must have struck the boards with the top of his head was not made known until after the reports of Dr. Collins and Mr. Johanson were filed, the court should have considered the affidavits.

Plaintiff's Initial Disclosure of Experts was received by the Clerk of the District Court on

September 10, 2001. The disclosure was docketed on February 5, 2004 with the notation "pleading found while closing out file". The disclosure was placed on the docket after the district court entered judgment in this case. The district court struck the affidavit of Dr. Funk, which was filed in opposition to Bauer's summary judgment motion, on the basis it was provided by an "unidentified/unlisted expert witness". (App. 33a).

The Court of Appeals noted that the district court's reasoning was "technically inaccurate" as Dr. Funk was clearly listed on the September 10, 2001 designation of experts. (App. 17a). However, the Court of Appeals held that the affidavit was properly stricken based on an oral order that was issued during a December 26, 2004 (*sic*) telephone conference. This Order involved Bauer's request to conduct depositions prior to the January 7, 2003 trial date and directed the parties to file replies to the pending *Daubert* motions by December 30, 2002. These facts were overlooked in holding the affidavits of Dr. Ramnath and Dr. Funk were properly excluded. (App. 12a-17a). As the affidavits satisfied the requirements of Rule 56(e) they both should have been considered in deciding the summary judgment motion.

#### **IV. THE DECISION CONFLICTS WITH OTHER CIRCUIT COURT DECISIONS REGARDING THE LIABILITY OF COMPONENT PART MANUFACTURERS**

The district court held that Bauer was not a manufacturer because they only manufactured a component part. (App. 61a). In *Miles v. Kohli & Kaliher Assoc., Ltd*, 917 F.2d 235 (6<sup>th</sup> Cir. 1990), the Sixth Circuit held that the component parts supplier of



materials to construct a bridge had a duty to warn on the basis of the supplier having superior knowledge of certain dangers. It has been established in this case that Bauer had knowledge players were using non-compatible masks yet failed to warn against it. (App. 89a). In *Fleck v. KDI Sylvan Pools, Inc.*, 981 F.2d 107 (3rd Cir. 1992), the product at issue was a swimming pool liner. The manufacturer of the swimming pool liner argued that they only supplied a component part and could not be held liable for injuries sustained diving into a pool. The Third Circuit rejected the manufacturer's argument that they only manufactured a component part as the liner had only one use. Specifically, to line a swimming pool and the dangers of failing to affix warning labels were easily foreseeable by the manufacturer. This same standard should have been applied in the case at hand as a hockey helmet has only one use and Bauer had specific knowledge of certain dangers they failed to warn against.

The Court of Appeals attempted to distinguish the *Fleck* decision on the basis that evidence was not presented that a spinal cord injury in the game of hockey was ever attributable to a downward torque of the head caused by a face first impact into the boards. (App. 24a). The court imposed a more rigid standard than is proper in a product liability case. If this were the standard, then every product liability case would require notice of a prior failure before a party could proceed. The Court of Appeals also ignored the case of *Moore v. Cooper Canada*, cited herein, in which the same expert and same manufacturer were involved. The *Moore* case was decided five (5) years prior to Levi Mohney being paralyzed and it was argued in the *Moore* case that a design defect caused the spine of the paralyzed player to come into critical alignment

following an initial blow in the area of the player's hairline. A recent case decided by the Supreme Court of North Carolina, involving a motorcycle helmet, was brought under a similar theory. *Howerton v. Arai Helmet, Ltd.*, 597 S.E. 2d 674 (N.C. 2004). In *Howerton*, the plaintiff alleged he was paralyzed as a result of a motorcycle helmet chin guard breaking, at impact, which resulted in his chin being forced downward. The plaintiff, in *Howerton*, alleged that the manufacturer failed to warn the chin guard would neither withstand nor protect against the physical forces experienced in a motorcycle accident. The expert, in *Howerton*, opined the flexible helmet was defectively designed as it did not limit the forward rotation of the plaintiff's head. The manufacturer, in *Howerton*, argued that plaintiff's expert did not perform testing relevant to the issue of causation and moved to strike the testimony. The Supreme Court of North Carolina ultimately reversed the exclusion of this expert testimony.

**V. THE *HOWERTON* DECISION OF THE SUPREME COURT OF NORTH CAROLINA PROVIDES A CONVINCING EXPLANATION OF WHY THE PETITION FOR WRIT OF CERTIORARI SHOULD BE GRANTED IN THIS CASE**

The parallels between the *Howerton* case and the case at hand are striking. The product defect, in *Howerton*, was alleged to be a flexible chin guard, which allowed the chin of the motorcycle rider to rotate to his chest. The plaintiff, in *Howerton*, also suffered a spinal cord injury at the C5-C6 level. The theory in the *Howerton* case was that the flexible chin guard failed to limit the forward rotation of the plaintiff's head. The trial judge, in *Howerton*, excluded all of the plaintiff's

causation experts by applying the *Daubert* factors. The Supreme Court of North Carolina reversed and the decision of the North Carolina Supreme Court is illustrative of the errors that have occurred in applying the *Daubert* factors to expert engineering opinions. The North Carolina Supreme Court was extremely critical of how the courts have interpreted the *Daubert* decision. The following excerpts from the *Howerton* decision are relevant to why the Writ should be granted in this case:

"When the United States Supreme Court...jettisoned the 'rigid 'general acceptance' requirement" of *Frye*, it did so in order to further the "liberal thrust" of the Federal Rules and their general approach of relaxing the traditional barriers to "opinion" testimony." *Daubert*, 509 U.S. at 588. We believe that in practice, however, application of the "flexible" *Daubert* standard has been anything but liberal or relaxed and that trial courts, such as the one in the present case, have often been reluctant to stray far from the original *Daubert* factors in their analysis of the reliability of expert testimony. As expressed by one critic, those who predicted that trial judges would flex their gatekeeper muscles to exclude vast quantities of plaintiffs' proposed expert causation opinion testimony in products liability cases have turned out to be right. The post-*Daubert* era can fairly be described as the period of "strict scrutiny" of science by non-scientifically trained judges. . *Daubert* has not achieved its stated intention of relaxing the barriers to the admissibility of expert testimony . . . *Daubert* is a very incomplete case if not a very bad decision. It did

not, in any way, accomplish what it was meant to, i.e., encourage more liberal admissibility of expert witness evidence. In fact, *Daubert* overall in practice actually created a more stringent test for expert evidence admissibility especially in civil cases . . . As often happens, a premature pronouncement that was intended to be flexible has become an established set of criteria. It was foolhardy for the Court to ignore what was going to happen, which was the trial judges would consider the four *Daubert* factors to be legal principles established by the Supreme Court. (footnotes and citations omitted)." *Howerton*, 597 S.E.2d at 690-691

The decision of the North Carolina Supreme Court, in *Howerton*, provides an explanation of why the Writ of Certiorari should be granted in this case. *Daubert* challenges are constantly raised in this country. The United States Supreme Court has not issued a decision which addresses the scope of the *Daubert* factors for more than five years. The Supreme Court of North Carolina, in *Howerton*, cautioned that trial courts were unnecessarily encroaching upon the constitutionally-mandated function of the jury to decide issues of fact and assess the weight of the evidence. The case at hand is an example of such concerns coming to fruition.

## **VI. THE OPINION IS IN CONFLICT WITH PUBLISHED DECISIONS ON THE ADEQUACY OF WARNINGS**

The undisputed facts in this case were that the mask and helmet were not intended to be used together nor did they satisfy the ASTM Standard that the mask

should not extend more than 19 millimeters from the front of the helmet. (App. 4a). The attachment also did not satisfy the standard the upper part of the helmet should follow the contour of the mask and either overlap or be attached in such a manner that the helmet will assist in impact force absorption. Dr. Collins and Mr. Johanson provided opinions that the incompatibility increased the torque on Levi Mohny's head. The record establishes the asymmetrical attachment resulted from the pre-drilled holes that were present on the Bauer helmet. The failed clip was manufactured by Bauer. Bauer knew that a mask would be attached to the helmet, as amateur players could not participate without a mask.

A fine print warning label was present on the back of the helmet. The warning sticker included general language that the helmet affords no protection for neck or spinal injury. (App. 3a). The Sixth Court held Bauer cautioned Levi of this final injury he sustained (App. 24a). Bauer failed to warn against the issues presented in this case. The warning sticker made no reference to the type of mask that should be affixed to the helmet, nor was Levi Mohny warned that only certain helmets and masks should be used together or that the use of certain masks would not satisfy the ASTM Standard. (App. 4a). The helmet also failed to include any instruction concerning the importance of keeping a player's head up in the event of a collision with the boards. The district court deemed it admitted that Bauer was aware of the importance of the position of a player's head to prevent spinal cord injuries. (App. 42a). Bauer's corporate designee testified that mixing and matching helmets and masks was a common occurrence. (App. 89a). The district court also noted that other evidence existed that Bauer



knew that players mixed and matched helmets and masks from different manufacturers that were not compatible. (App. 89a).

The opinion below conflicts with other decisions concerning the adequacy of warnings. Summary judgment was entered because Levi Mohny "purposely" did not read the fine print sticker on the back of the helmet. (App. 25a). The Sixth Circuit described the warning label as being "prominently displayed". (App. 23a). The conclusion of the Sixth Circuit is contrary to Ohio Product Liability Law as a jury should resolve the question of the adequacy of a warning sticker. *Crislip v. TCH Liquidating, Co.*, 52 Ohio St.3d. 251, 556 N.E. 2d 1177 (1990). Significantly, the warning sticker made no reference to the use of compatible products, satisfaction of the ASTM Standard or the importance of avoiding impacts to the top of the head to prevent spinal cord injuries. The question involving the failure to read involves the adequacy of the warning. *McConnell v. Cosco, Inc.*, 238 F.Supp.2d 970 (S.D. Ohio 2003). The issue of whether the sticker was adequate was clearly a question for the jury.

## CONCLUSION

The Petition for Writ of Certiorari should be granted and the decision of the Sixth Circuit affirming the grant of Bauer's summary judgment motion should be reversed as described in this Petition. This case should be remanded to the district court with instructions to decide the Mohny's motion to exclude Bauer's expert engineering opinions on the basis they are not based on the facts of the case.

Respectfully submitted,  
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1a

(any footnotes trail end of each document)

No. 04-3227

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT

LEVI MOHNEY, MARY MOHNEY and TIMOTHY  
MOHNEY,  
Plaintiffs-Appellees

v.

USA HOCKEY, INC. a/k/a AMATEUR HOCKEY  
ASSOCIATION OF THE UNITED STATES, INC.;  
TOLEDO CHEROKEES JR. CLUB, INC. d/b/a  
TOLEDO CHEROKEES; CENTRAL STATES  
HOCKEY LEAGUE; NORTH AMERICAN JUNIOR  
HOCKEY; UNKNOWN REFEREES,  
PERSONALLY AND AS AGENTS AND  
EMPLOYEES OF USA HOCKEY, TOLEDO  
CHEROKEES, NORTH AMERICAN JUNIOR  
HOCKEY LEAGUE AND CENTRAL STATES  
HOCKEY LEAGUE; COOPER OF CANADA  
LIMITED n/k/a BAUER, INC.; JOFA FACE MASKS  
d/b/a KARHU USA, INC.; and JASON RENEGER,  
Defendants-Appellants

July 14, 2005, Filed

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REPRODUCED.

COUNSEL: For LEVI MOHNEY, Plaintiff -  
Appellant: Fred C. Jug, Jr., Brandt, Milnes & Rea,  
Pittsburgh, PA; James R. Oates, Oates & Oates,  
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For MARY MOHNEY, Plaintiff - Appellant: Fred C.  
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For TIMOTHY MOHNEY, Plaintiff - Appellant: Fred  
C. Jug, Jr., Brandt, Milnes & Rea, Pittsburgh, PA;  
James R. Oates, Oates & Oates, Merrillville, IN

For COOPER OF CANADA LIMITED, Defendant -  
Appellee: Stephen D. Straus, Traub, Eglin, Lieberman,  
Straus, Hawthorne, NY

JUDGES: Before: COLE and SUTTON, Circuit  
Judges; ZATKOFF, Senior District Judge. \*

OPINION BY: ZATKOFF

OPINION:

ZATKOFF, Senior District Judge. This case arises out  
of an unfortunate accident that has left a young man  
forever paralyzed. Plaintiff-Appellant Levi Mohney  
("Mohney") was a 17 year-old hockey player on May 21,  
1995, when he participated in a try-out hockey camp in  
Toledo, Ohio. On a contested icing play during a

scrimmage, Mohnney crashed into the boards and suffered a spinal injury rendering him a quadriplegic. Only Cooper of Canada Limited n/k/a Bauer, Inc. ("Bauer"), the manufacturer of the helmet worn by Mohnney at the time of his injury, remains as a defendant in this case. Bauer filed several motions, including a motion to exclude Plaintiffs-Appellants' experts and a motion for summary judgment. Judge David A. Katz of the Northern District of Ohio (Western Division) granted Bauer's motions. Because there is no cause of action against Bauer, we must affirm.

## I. BACKGROUND

### A. Undisputed Facts

In August 1994, Mohnney purchased a black Cooper SK 2000 helmet manufactured by Bauer. At the time the helmet was manufactured, Bauer was aware of a "Heads Up: Don't Duck" program that had been created to promote awareness of the prevention of spinal cord injuries, including the importance of the position of the head when approaching the boards to prevent such injuries. The following warning was imprinted on the back of the helmet at the time of purchase (and remains there today):

Ice hockey is a collision sport which is dangerous. This helmet affords no protection for neck or spinal injury. Severe head, brain or spinal injuries, including paralysis or death, may occur despite using this helmet. Do not use this helmet if the shell is cracked or if the interior padding is deteriorated. Read instructions carefully before wearing.



Mohney has stated that he never read the above warning on any of the hundreds of times he put the helmet on and took it off. The helmet did not have a warning or instruction concerning the type of mask that should be affixed to the helmet, nor was Mohney warned that only certain helmets and masks should be used together.

At some time between Mohney's purchase of the helmet and May 21, 1995, a mask manufactured by former defendant Jofa Face Masks d/b/a Karhu USA, Inc. ("Jofa")<sup>1</sup> was attached to the helmet using certain hardware, including screws, nuts and two "J-clips." It is undisputed that Bauer did not direct Mohney regarding the proper manner in which to attach a mask (or the appropriate type of mask to attach) to the helmet or the appropriate hardware to use to attach a mask. The helmet and mask in this case were not compatible and did not conform to relevant standards set forth by the American Society for Testing and Materials (the "ASTM Standards"). ASTM Standards provide that (1) a hockey face protector (mask) should not extend more than 19 millimeters from the front of the helmet, and (2) the upper part of the helmet shall follow the contour of the mask it is attached to and either overlap or be attached in such a manner that the helmet will assist in impact-force absorption. Mohney's mask extended 35 millimeters from the front of his helmet and the helmet and mask were asymmetrical.

On May 21, 1995, Mohney and another player chased a puck in an effort to prevent or effectuate an icing call, respectively. In doing so, they approached the boards with Mohney in front of the other player. The other player contacted Mohney from behind as Mohney

skated (face) forward. Mohney struck the boards head first and, as a result, suffered an injury at the C5-C6 level which rendered him quadriplegic. The right-hand side J-clip was not present on the helmet after the incident and it was never recovered.

### B. Summary of Parties' Arguments

Plaintiffs maintain that Mohney kept his head up as he headed into the boards in order to avoid a blow to the crown (top) of the head, as he had been instructed to do throughout the years, because he knew that a serious spinal injury could result from going into the boards crown first. Plaintiffs assert that, with his head up, Mohney's head went face-forward into the boards as his body continued to move forward. As his face/the mask collided with the boards, Plaintiffs contend that, in a matter of milliseconds, (1) the J-clip on the right-hand side holding the mask in place dislodged or was absent, (2) thereby causing Mohney's head to deflect from a face-forward presentation with the boards to a crown presentation, and (3) that as his body continued forward, the force caused Mohney's spine to buckle.

Bauer argues that Mohney's head initially struck the boards in a crown-first position. Bauer maintains that there was no rotation of the head from a face-forward presentation to a crown presentation.

### C. Procedural History

Plaintiffs filed this action in 1997. In 1999, Judge Katz granted summary judgment in favor of all defendants on the basis of a "Release of Liability/Acknowledgment of Risk" signed by Mohney prior to joining the

Indianapolis Amateur Ice hockey team in the fall of 1994 (a document also signed by his father, Plaintiff-Appellant Timothy Mohny). See *Mohny v. USA Hockey, Inc.*, 77 F.Supp.2d 859 (N.D. Ohio 1999). The "Release of Liability/Acknowledgment of Risk" included the following provision: "I/we understand and appreciate that participation or observation of the sport constitutes a risk to me/us of serious injury, including permanent paralysis or death." The district court's 1999 decision was affirmed in part and reversed in part by this Court, see *Mohny v. USA Hockey, Inc.*, 5 Fed.Appx. 450 (6th Cir. 2001), which remanded the case to the district court so that the products liability claim against Bauer and the mask manufacturer (Jofa) could be heard.

In the fall of 2003, Bauer and Jofa filed motions for summary judgment and motions to exclude the reports of Plaintiffs' experts, Richard Collins, Ph.D. ("Dr. Collins") and Norman Johanson ("Johanson"). A telephonic hearing was held on December 26, 2003, pursuant to which Judge Katz orally ruled that the affidavit of Dr. Daniel A. Funk ("Dr. Funk") would be stricken. From January 7-10, 2004, a *Daubert*<sup>2</sup> hearing was held with respect to the parties' proposed experts, including Dr. Collins and Johanson. Between the time of the *Daubert* hearing and January 23, 2004, Plaintiffs settled their claims against Jofa. On January 23, 2004, Judge Katz issued a Memorandum, Opinion and Order, pursuant to which he granted Bauer's motion to exclude Plaintiffs' experts and Bauer's motion for summary judgment.

## II. ANALYSIS

## A. Exclusion of Plaintiffs' Experts

A district court's decision to admit or exclude expert testimony is reviewed for abuse of discretion, and this Court will only reverse if firmly convinced that the district court erred. *Clay v. Ford Motor Co.*, 215 F.3d 663, 666 (6th Cir. 2000).

### 1. Dr. Collins' Testimony

In *Daubert*, the U.S. Supreme Court listed four factors as guidelines for a trial judge to consider in assessing whether an expert's proposed testimony involving scientific or other specialized knowledge will conform to Fed. R. Evid. 702:

- (a) whether the theory or technique can be or has been tested;
- (b) whether the theory has been subjected to peer review and publication;
- (c) the known or potential rate of error; and
- (d) general acceptance within the relevant scientific community.

*Daubert*, 509 U.S. at 594; see also *Nelson v. Tenn. Gas Pipeline Co.*, 243 F.3d 244, 251 n.5 (6th Cir. 2001).

In this case, the district court conducted an extensive inquiry into the qualifications and reliability of the opinions of Dr. Collins and Johanson (as discussed below), including "a review of their deposition testimony, expert reports, testimony during a *Daubert*

hearing (consisting of approximately 30 hours of testimony), along with a summary of such evidence during oral arguments." The district court recognized Dr. Collins as a qualified expert in the field of biomechanical engineering and summarized Dr. Collins' opinion testimony as follows (which Dr. Collins admitted was a correct interpretation):

In laymen's terms, what your [sic] saying [is] that your analysis reveals that as the mask went into the boards in face-first posture, that the equilibrium of forces was destroyed by the giving way of the J-clip on the right side, thereby permitting the vertical force to take over because the mask gave way and causing the downward rotation to the crown presentation.

The district court excluded Dr. Collins' testimony because "while Dr. Collins has performed mathematical calculations, the Court has found these calculations and the methods employed to be suspect and unreliable."

Our review of the record leads us to reach the same conclusion as the district court. First, Dr. Collins' analysis was based on his personal review of the helmet and mask. His research included watching the videotape of the incident and performing measurements of the helmet and mask, then incorporating such observations and measurements into mathematical calculations based on Newton's Laws of Physics, a recognized and valid scientific method. Dr. Collins did not, however, attempt to replicate the incident, perform any manner of accident reconstruction or conduct any relevant technical or scientific testing of the helmet/facemask combination



(using either the incompatible components present in this case or compatible helmets and masks). Dr. Collins acknowledged that such testing could have been performed to evaluate the veracity of his claims (and Dr. Collins in fact had set up a protocol for such tests), but Plaintiffs had not authorized him to conduct any such tests.

Second, Dr. Collins did not cite any published work to buttress his opinion, nor could he because Dr. Collins' theory has not been subject to peer review and publication. Third, not only does Dr. Collins' opinion that Mohney's spinal injury could occur as the result of a face-first impact lack general acceptance within the relevant scientific community, it is not accepted in any scientific community. In fact, Dr. Collins' preliminary review dated January 24, 2002, quoted another researcher/expert as saying:

Biomechanical studies have not supported the notion that the helmet is an important factor in causing spinal injury (Bishop *et al.* 1983) . . . . La Prade and co-workers (1998) found no evidence that face masks are related to an increase in overall head and neck injuries.

Fourth, Dr. Collins performed his calculations based on a series of assumptions (including the theory of Johanson regarding the abrupt release of the J-clip rejected by the district court (as discussed below)). Dr. Collins admitted that he did not utilize the actual data as input in the mathematical equations to support his theory but rather used an "illustration of parameters," *i.e.*, estimates. Dr. Collins then concluded that, within a reasonable degree of biomechanical certainty, such

incompatibility of the mask and helmet combination led to a re-direction of the impact forces to cause the spinal injuries and permanent disability. We find that the estimates and assumptions used by Dr. Collins undermine the likelihood that Dr. Collins used data sufficiently tied to the facts of the case here, which the Supreme Court has indicated is critical:

Nothing either in *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to the existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.

*General Elec. Co. v. Joiner*, 522 U.S. 136, 146, 139 L. Ed. 2d 508, 118 S. Ct. 512 (1997). The correspondence between Dr. Collins and his supervisors also suggests that his supervisors were not convinced of the reliability of Dr. Collins' calculations and conclusions.

For the reasons stated, we hold that the district court did not abuse its discretion in excluding Dr. Collins' testimony.

## *2. Testimony of Johanson*

The district court recognized Johanson as a qualified expert in the field of mechanical engineering. In summary, Johanson concluded that: (a) the incompatibility of the helmet and mask resulted in an asymmetric attachment of the mask, (b) such asymmetry resulted in the mask's full engagement of the left-hand side J-clip but only minimal engagement

with the right-hand side J-clip, (c) based on that minimal engagement on the right-hand side, two screw-nut combinations affixing the right-hand side J-clip were loosened over time, such that (d) when Mohnney's face struck the boards, the pre-existing loose fitting screw-nut combinations instantly and simultaneously vibrated apart at or immediately after the initial time of impact, (e) resulting in the J-clip dislodging, and (f) allowing the mask to release to the downward torque.

The district court found Johanson's testimony on the asymmetrical fit of the mask and helmet to be reliable but excluded Johanson's testimony regarding the screw-nut combination and J-clip because it was not the product of a reliable methodology. Plaintiffs claim that the exclusion of Johanson's J-clip testimony was due to the district court's adoption of Bauer's version of the facts, namely Johanson's conclusion that the J-clip was not present at the time of the incident. A simple review of the portion of the district court's opinion excluding Johanson's testimony regarding the J-clip reveals that the district court did not discuss the facts of the case whatsoever. Rather, the district court concluded that Johanson did not perform any tests to form his opinions in this case, but had simply based his opinion on his visual inspection and measurements of the helmet and mask. The district court rejected Plaintiffs' contention that Johanson conducted a "test" by shaking the J-clip back and forth with his hand while resting an exemplar helmet on a table.

We find that the district court did not abuse its discretion in concluding that Johanson had not conducted adequate testing to support his opinion. First, there is no evidence that the "test" conditions

accurately replicated or even approximated those at the time of the incident. Second, Johanson cited no research or publications quantifying the impact forces (vibrations) necessary to cause the screw-nut combinations to become loose. Third, Johanson's conclusions are further undermined because Johanson: (i) assumed (but did not know) the remaining screw-nut combinations on the left-hand side J-clip were the same as those on the right side, (ii) did not attempt to determine the thread class of the screws or test whether the thread class of the left-hand side screw-nut combinations was sufficient, but rather just made the assumption that they were not, and (iii) failed to support his opinion with any objective testing or analysis (i.e., using any control standards). We conclude that such "testing" and Johanson's opinion on the basis of such "testing" cannot be considered reliable under the four factors set forth in *Daubert*, supra.

For the reasons stated, we hold that the district court did not abuse its discretion in excluding Johanson's testimony regarding the J-clip.

### *3. Dr. Ramnath's Affidavit*

Dr. Ramnath was the treating physician at the hospital to which Mohny presented immediately following his injury on May 21, 1995. Dr. Ramnath completed a history and physical of Mohny, which included the following statement: "This seventeen year old man was playing hockey at approximately 11:00 this morning and was thrown face forward into the boards, striking his face against the boards." Plaintiffs submitted an affidavit signed by Dr. Ramnath detailing his treatment of Mohny and Dr. Ramnath's conclusions regarding

the manner in which Mohney's injury occurred. Paragraphs 9-11 of Dr. Ramnath's affidavit state:

9. I have had the opportunity to review the MiniDV tape of the accident. The accident is consistent with the history recorded in my records. Levi Mohney hit the boards face first. Subsequent to the initial impact, his head rotates down so that the crown of his head is in contact with the boards.

10. This history is consistent with a facial impact and rotation into a crown presentation with a vertical load and hyperflexion type of injury.

11. The injuries Levi Mohney sustained are consistent with the history and physical findings of the injury recorded in the medical records of Flower Hospital, and with the tape of the accident.

The district court excluded Paragraphs 9-11 of Dr. Ramnath's affidavit because Dr. Ramnath based his conclusions in such paragraphs on his review of the videotape of the incident, not his personal observations of Mohney in treating him.

Plaintiffs-Appellants did not list Dr. Ramnath as an expert (and do not seek to have him testify as one) but rather argue that a treating physician may render opinions with respect to causation without being subject to disclosure requirements of Fed. R. Civ. P. 26(a)(2)(B). See *Martin v. CSX Transp., Inc.*, 215 F.R.D. 554 (S.D. Ind. 2003). The *Martin* court, however, ruled that disclosure requirements were not necessary



in that case because the treating physician formed the causation opinion during the care and treatment of the plaintiff, not in anticipation of litigation. On the other hand, the *Martin* court also noted that where the treating physician's opinion is rendered in anticipation of litigation, courts have held that "causation is beyond the scope of the testimony a treating physician may provide without tendering an expert disclosure report." *Id.* at 556-57 (citations omitted)(recognizing a split of authority on the issue in the Seventh Circuit).

More significantly, this Court has squarely addressed this issue. See *Harville v. Vanderbilt University, Inc.*, 95 Fed.Appx. 719 (6th Cir. 2003). In *Harville*, this Court upheld a district court's decision to exclude the expert testimony portions of the deposition testimony of treating physicians for failure to comply with Rule 26 disclosure requirements. *Id.* at 724-25; cf. *Ridder v. City of Springfield*, 108 F.3d 1377, 1997 WL 117024, at \*4 (6th Cir. 1997)(upholding order permitting plaintiff's treating physician to testify without Rule 26(a)(2)(B) expert report disclosures "so long as they do not purport to testify beyond the scope of their own diagnosis and treatment").

Despite Dr. Ramnath not being listed as an expert witness, he clearly was opining as to the manner in which Mohny's head rotated from a facial impact to a crown presentation, based in part on his viewing of the video. Dr. Ramnath's affidavit was not prepared until December 2002, long after the incident occurred. There is no evidence that Dr. Ramnath reached the same conclusions regarding causation at the time he treated Mohny. As such, it was reasonable for the district court to find that Dr. Ramnath was rendering an expert

opinion that was subject to disclosure requirements and to exclude his affidavit for failing to satisfy those requirements. Moreover, by striking only Paragraphs 9-11 of Dr. Ramnath's affidavit, the district court left intact those matters over which Dr. Ramnath had personal knowledge. Accordingly, we hold that the district court did not abuse its discretion in excluding Paragraphs 9-11 of Dr. Ramnath's Affidavit.

*4. Affidavit of Daniel Funk, M.D.*

Dr. Funk prepared an affidavit based on his examination of the helmet as well as the medical records and x-rays that were obtained immediately after Mohney's injury. He opined that (a) physical evidence on the helmet and mask indicated that Mohney struck the boards in a face first position, (b) upon impact the right clip fastener (J-clip) failed, and (c) such failure contributed to a consequential flexion and rotation of Mohney's head. The district court's January 23, 2004, Memorandum, Opinion and Order includes the following discussion of Dr. Funk's affidavit (emphasis added):

[Bauer] also seeks to exclude the affidavits of Dr. Funk and Dr. Ramnath, arguing that to admit them is tantamount to offering expert testimony in contravention of disclosure requirements in Rule 26. Dr. Funk's affidavit presents findings regarding the helmet-mask combination in this case and their role in causing [Mohney]'s head to torque from a face first to a crown position. This affidavit represents an attempt to buttress the opinions offered by Mr. Johanson and Dr. Collins, Plaintiffs' retained liability experts, with

testimony from an *unlisted/unidentified expert witness*. Thus, Dr. Funk's affidavit is inadmissible and stricken in its entirety.

Plaintiffs argue that the district court erred in excluding the affidavit because Plaintiffs' Designation of Experts filed on September 10, 2001, listed him as an expert witness (and included a copy of his affidavit and C.V.). Plaintiffs assert that a clerical problem led to the document not being put on the docket until after the district court granted summary judgment in 2004.

Our review of the record reveals the following. First, on February 8, 2002, the district court directed Plaintiffs to provide all outstanding expert disclosure. On February 22, 2002, Plaintiffs filed Supplemental Expert Disclosures in which Dr. Collins was listed (and Dr. Funk was not listed) as a liability expert for Plaintiffs. Second, Bauer filed a motion to strike affidavits (including that of Dr. Funk) on procedural and substantive grounds on December 19, 2002. Among the reasons to exclude Dr. Funk's affidavit set forth in Bauer's motion to strike affidavits were the following: (i) since the appeal of the 1999 grant of summary judgment by the district court, Plaintiffs had not utilized Dr. Funk, (ii) Dr. Funk had been replaced as a liability expert by Dr. Collins, (iii) at pre-trial conferences with the district judge, the only liability experts of Plaintiffs discussed were Dr. Collins and Johanson, (iv) in a March 18, 2002, letter, Plaintiffs' counsel identified only Dr. Collins and Johanson as expert witnesses, and (v) by Dr. Funk's own admission, the opinion set forth in his affidavit was an untested theory and nothing more (he had conducted no research or testing). Pursuant to a December 26, 2002, telephonic

hearing, the district court struck Dr. Funk's affidavit in its entirety.<sup>3</sup> Third, at the *Daubert* hearing, the district court said "I believe in an oral order to the parties there was an indication that Dr. Funk's affidavit had been stricken from the record[.]"

In considering this issue, the district court's rationale in the Memorandum, Opinion and Order dated January 23, 2004, appears to be technically inaccurate, as Dr. Funk clearly was listed on the September 10, 2001, Designation of Experts. The fact of the matter, however, is that the district court struck Dr. Funk's affidavit at the December 26, 2003, hearing, long before issuing its written Memorandum, Opinion and Order. Although the parties have not produced a transcript of the December 26, 2003, hearing, any one of the grounds set forth by Bauer in its motion to strike would provide sufficient basis upon which to strike Dr. Funk's affidavit. In addition, the district court explicitly stated that Dr. Funk's affidavit had been excluded during the December 26, 2004, hearing at the initial day of the *Daubert* hearing (without objection by Plaintiffs' counsel), prior to the issuance of the Memorandum, Opinion and Order.

Accordingly, we hold that the district court did not abuse its discretion in excluding Dr. Funk's affidavit.

## B. Summary Judgment Issues

### 1. Standard of Review

This Court reviews a district court's grant of summary judgment on a *de novo* basis. *Dubuc v. Green Oak Township*, 312 F.3d 736, 743 (6th Cir. 2002). Summary

judgment is appropriate only if the answers to the interrogatories, depositions, admissions, and pleadings, combined with any affidavits in support show that no genuine issue as to any material fact remains and that the moving party is entitled to a judgment as a matter of law. *See* Fed. R. Civ. P. 56(c). A genuine issue of material fact exists when there is "sufficient evidence favoring the nonmoving party for a jury to return a verdict for that party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249, 91 L. Ed. 2d 202, 106 S. Ct. 2505 (1986)(citations omitted). In application of this summary judgment standard, this Court must view all materials supplied, including all pleadings, in the light most favorable to the non-moving party. *Matsushita Electric Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587, 89 L. Ed. 2d 538, 106 S. Ct. 1348 (1986). *See also* *Campbell v. Grand Trunk W. R.R. Co.*, 238 F.3d 772, 775 (6<sup>th</sup> Cir. 2001). "If the evidence is merely colorable or is not significantly probative, summary judgment may be granted." *Anderson*, 477 U.S. at 249-50 (citations omitted).

The moving party bears the initial responsibility of informing the Court of the basis for its motion and identifying those portions of the record that establish the absence of a genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323, 91 L. Ed. 2d 265, 106 S. Ct. 2548 (1986). Once the moving party has met its burden, the nonmoving party must go beyond the pleadings and come forward with specific facts to demonstrate that there is a genuine issue for trial. *See* Fed. R. Civ. P. 56(e); *Celotex*, 477 U.S. at 324. The nonmoving party must do more than show that there is some metaphysical doubt as to the material facts. It must present significant probative evidence in support



of its opposition to the motion for summary judgment in order to defeat the motion for summary judgment. See *Moore v. Phillip Morris Cos., Inc.*, 8 F.3d 335, 339-40 (6th Cir. 1993).

## *2. Initial Position of Mohney's Head*

Plaintiffs argue that the district court erred in granting summary judgment because there is a disputed issue of whether the initial impact of Mohney's head into the boards was face first or crown first. Plaintiffs do not cite the page upon which the district court reached this conclusion. Our review of the district court's opinion and the record reveals that there is clearly a dispute regarding the issue of whether Mohney's initial impact with the boards was face first or crown first, and the district court, at least implicitly, recognized as much. See J.A. 48 ("The relevant inquiry is not whether Jamey and Terry Cearley were able to see the torque of Levi's head, but rather whether they observed a face first impact. No valid argument has been preferred that either was unable to see the initial point of impact . . . . Thus, Jamey and Terry Cearley's affidavits [indicating that Mohney struck the boards face first] are admissible").

More significant to this appeal, however, is whether this disputed issue of fact is material. As addressed above, the district court appropriately excluded all testimony which could support the theory that Mohney's injury was caused by the rotation of Mohney's head from a face first presentation to a crown presentation. Moreover, there is no testimony that the helmet itself caused the injury. Accordingly, even if Mohney went into the boards face first, there is no basis

upon which Plaintiffs can demonstrate that Bauer was at fault for, or is a proximate cause of, the resulting injury.

### *3. Bauer is not a Manufacturer*

Plaintiffs have asserted that Bauer is the manufacturer of the "head protection system" (i.e., the combination of the Bauer helmet, Jofa mask and assorted hardware, including nuts, screws and the J-clips) worn by Mohny. The district court held that, for purposes of Plaintiffs' product liability claim, Bauer was merely a manufacturer of a component part (the helmet) under Ohio Law, not the manufacturer of the head protection system.

A component manufacturer can only be deemed liable for product liability purposes if it assembles, designs or otherwise integrates such component into a design which creates a final product. See O.R.C. § 2307.71(A)(9) (2005); *Leibreich v. A.J. Refrigeration, Inc.*, 67 Ohio St.3d 266, 271, 1993 Ohio 12, 617 N.E.2d 1068 (1993); *Miles v. Kohli & Kaliher Assocs., Ltd.*, 917 F.2d 235, 245 (6th Cir. 1990)(supplier of bridge components also provided information on how to assemble all components and was therefore a manufacturer for the purposes of products liability). A manufacturer who markets a product in an unassembled state and is not involved in the design or assembly of the integrated product or system cannot be liable for a defect introduced by a third party. See *Schaffer v. A.O. Smith Harvestore Prods. Inc.*, 74 F.3d 722, 729 (6th Cir. 1996)("without any evidence of defect in the component parts themselves, summary judgment is appropriate to the defective products claims" based

on a combination theory); *Grover Hill Grain Co. v. Baughman-Oster, Inc.*, 728 F.2d 784 (6th Cir. 1984).

We are not persuaded by Plaintiffs' reliance on two Sixth Circuit cases to support their contention that Bauer is a manufacturer. Plaintiffs first assert that the instant case is analogous to *Miles* because Bauer manufactured the helmet and the J-clip and knew players were mixing and matching helmets and masks. Plaintiffs' argument is misguided, however, as the key to the *Miles* court's conclusion was that the component part supplier also drafted the design of the finished bridge and therefore had superior knowledge of certain dangers. Here, at most Bauer knew that the helmet would be a component of the head protection system. There is no evidence that Bauer assembled the helmet and mask into a single unit. Moreover, it is undisputed that Bauer did not provide instructions or specifications on a sembly of the specific helmet/mask combination worn by Mohney. The facemask worn by Mohney, however, did come with mounting instructions and provided mounting hardware such as screws and nuts. Therefore, no factual inference can be made that Bauer instructed the assembly of the combined product.

Plaintiffs also rely on *Webb v. S.R.S. Liquidation Co.*, 92 Fed. Appx. 249, 2004 U.S. App. LEXIS 4522 at \*1 (6\* Cir. 2004), wherein this Court held that it would be unfair to hold a component part manufacturer responsible for failing to anticipate the manner in which its products would be integrated into larger systems by third parties. Plaintiffs argue that in this case Bauer should be liable because Bauer knew that the helmet would be integrated into a head protection system and the manner in which it would be assembled. Again,

there is no evidence that, even if Bauer could be said to have knowledge of (or responsibility for) the end product, Bauer knew or had reason to know that the head protection system could cause a spinal injury as the result of downward torque upon a face first impact.

Plaintiffs next rely on a Third Circuit case in which a manufacturer of a replacement swimming pool liner was held strictly liable for its failure to attach warning labels stressing the dangers of diving into a shallow pool. *Fleck v. KDI Sylvan Pools, Inc.*, 981 F.2d 107(3rd Cir. 1992). The Third Circuit rejected the manufacturer's argument that it was only a supplier of a component part and should not be expected to foresee the dangers of diving into a shallow pool because the pool liner had but one use, which was to line the pool and the dangers of failing to affix warning labels was easily foreseeable. Plaintiffs suggest the same analysis applies in this case because Bauer should reasonably have foreseen the danger of warning about non-compatible helmets and masks. Plaintiffs also point out that it would have been feasible to attach such warnings to the helmet and that Bauer easily could have warned players to use only compatible helmet-mask combinations and to consult literature to ensure the products were compatible.

Unlike the *Fleck* case, however, and for the reasons stated above (namely, that there is no evidence that a spinal injury has ever been attributed to an incompatible helmet/mask combination or downward torque of the head caused by face first impact into the boards), we conclude that there is no reason Bauer should have foreseen the danger of the injury to Mohny allegedly caused by the head protection system

here. In addition, unlike the pool liner in *Fleck*, Bauer's helmet does warn that spinal injuries could result from playing hockey and that the helmet does not afford protection for the same. As such, the law does not support Plaintiffs' position that Bauer is a manufacturer of the head protection system.

For the reasons set forth above, we conclude that the district court did not err in holding that Bauer was not a manufacturer of the head protection system.

#### *4. Failure to Warn Claim*

Plaintiffs believe the district court erred in dismissing Plaintiffs' failure to warn claim because Mohny's failure to read the warning label prominently displayed on the back of the helmet vitiated any proximate cause attributable to Bauer. In order to survive summary judgment under a failure to warn theory, a plaintiff must prove: (1) the product posed a risk of harm for which plaintiff seeks recovery; (2) the manufacturer knew, or reasonably should have known, of the existence of such risk; (3) the manufacturer failed to provide an adequate warning or instruction concerning that risk; and (4) the lack of an adequate warning was the proximate cause of Plaintiffs' injuries. O.R.C. 2307.76(A)(1); *Seley v. G.D. Searle & Co.*, 67 Ohio St.2d 192, 200, 423 N.E.2d 831 (1981); *Chic Promotion, Inc. v. Middletown Sec. Sys.*, 116 Ohio App. 3d 363, 369, 688 N.E.2d 278 (1996). Under Ohio law, the question of whether a manufacturer has a duty to warn is a question of law. *Schaffer*, 74 F.3d at 729; *Mussivand v. David*, 45 Ohio St.3d 314, 318, 544 N.E.2d 265 (1989).

Like the other issues in this case, Plaintiffs' argument



suffers from the fact that, absent the stricken testimony of Plaintiffs' experts, Plaintiffs have no evidence to show that the injury to Mohney was proximately caused by the head protection system. For that reason, Plaintiffs cannot satisfy any of the four required elements described above. First, there is no evidence that an injury like Mohney's (paralysis) due to a defective head protection system had occurred prior to Mohney's accident (nor were there any tests or articles that suggest that such an injury was likely as a result of the same). In fact, in light of the lack of scientific testing conducted by Plaintiffs' experts and the exclusion of their opinions/testimony due to the unreliability of their theories, even today there is no evidence (or reliable expert opinion) that such an event occurred in this case. Second, Bauer did not know, nor could Bauer have had reason to know, such a system could cause a spinal injury for a player who goes into the board face first. The earliest the theory set forth by Plaintiffs became known or should have become known was upon the occurrence of Mohney's injury.

Third, the warning on the helmet made by Bauer cautioned Mohney of the danger of the very injury suffered by Mohney (spinal injury), and stated that the helmet "affords no protection for neck or spinal injury" and "severe head, brain or spinal injuries, including paralysis or death, may occur despite using this helmet." Therefore, the warning on the helmet alone provided information regarding the very risk Plaintiffs assert is associated with the head protection system.

Fourth, as recognized by the Ohio Supreme Court in *Seley*, a plaintiff is given the benefit of a rebuttable presumption that he would have heeded an adequate

warning; however, that presumption can be overcome with evidence suggesting that the warning would have been disregarded by plaintiff. *Seley*, 67 Ohio St.2d at 200-01. See also *Hisrich v. Volvo Cars of N. Am., Inc.*, 226 F.3d 445, 451 (6th Cir. 1995)("Ohio courts have found that when evidence shows that plaintiff failed to read instructions proximate cause is rebutted"); *Vermett v. Fred Christen & Sons Co.*, 138 Ohio App.3d 586, 612, 741 N.E.2d 954 (2000)(evidence demonstrating that plaintiff is a person who is indifferent to safety warnings, such as the past disregard of warnings, is sufficient to rebut the presumption). Here, Mohney admitted that (a) he put the helmet on and took it off hundreds of times, (b) the warning on the helmet was plain and unambiguous, (c) he purposefully did not read the warning on the helmet, and (d) he did not read similar warnings set forth on releases he signed over the years or on product hang tags such as those on the Jofa mask. As such, it was reasonable for the district court to conclude that Mohney's admitted indifference to safety warnings rebutted any proximate cause attributable to Bauer.

For the reasons set forth above, we hold that the district court did not err in dismissing Plaintiffs' failure to warn claim.

##### *5. Consumer Expectation Standard*

For products designed prior to January 27, 1997, the existence of a product defect may be inferred by demonstrating that the product "is more dangerous than an ordinary consumer would expect when using it in an intended and reasonably foreseeable manner" (the "consumer-expectation standard"). See O.R.C.

2307.75(A)(2)(revoked); *Atkins v. General Motors Corp.*, 132 Ohio App.3d 556, 725 N.E.2d 727 (1999). Plaintiffs contend the consumer-expectation standard is applicable in this case; the district court held otherwise.

Under the consumer-expectation test, a product may be proven to be in a defective condition if: (1) it is more dangerous than an ordinary consumer would expect when used in an intended or reasonably foreseeable manner, (2) the claimed defect was present when the product left the manufacturer, and (3) the claimed defect proximately caused the claimed injuries. *Leichtamer v. Am. Motors Corp.*, 67 Ohio St. 2d 456, 467, 424 N.E.2d 568 (1981). In this case, we have already concluded that Bauer is not the manufacturer of the head protection system and that proximate cause for the injuries to Mohny has been rebutted. Accordingly, we hold that the district court did not err in failing to apply the consumer expectation standard in this case.

### III. CONCLUSION

For the reasons stated above, we AFFIRM the district court's grant of summary judgment and dismissal of Plaintiffs' action.

#### Footnotes

\* The Honorable Lawrence P. Zatkoff, Senior District Judge for the Eastern District of Michigan, sitting by designation.

n1 There were warnings attached to the mask when he got it, and Mohny states that he did not read those warnings.

n2 *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592-94, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993).

n3 Neither of the parties set forth the basis of the district court's ruling from that telephonic hearing, nor has a transcript of that hearing been put in the record.

UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO,  
WESTERN DIVISION

LEVI MOHNEY, et al.,  
Plaintiff,

-vs-

USA HOCKEY, INC., etc., et al., Defendant.

January 23, 2004, Decided

COUNSEL: For LEVI MOHNEY, MARY MOHNEY,  
TIMOTHY MOHNEY, plaintiffs: James R. Oates, Esq.,  
Merrillville, IN.

For LEVI MOHNEY, MARY MOHNEY, TIMOTHY  
MOHNEY, plaintiffs: Fred C. Jug, Esq., Brandt, Milnes  
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For USA HOCKEY, INC. aka Amateur Hockey  
Association of the United States, Inc., TOLEDO  
CHEROKEES JR CLUB, INC. dba Toledo Cherokees,  
CENTRAL STATES HOCKEY LEAGUE,  
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For COOPER OF CANADA LIMITED dba Bauer,  
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For JASON RENEGER, defendant: William H. Bracy, Esq., City Of Toledo, John R. Kuhl, Esq., Bracy & Kuhl, Toledo, OH.

JUDGES: DAVID A. KATZ, U. S. DISTRICT JUDGE.

OPINION BY: DAVID A. KATZ

OPINION:

MEMORANDUM OPINION

KATZ, J.

This matter is before the Court on Plaintiffs Levi Mohney, Mary Mohney and Timothy Mohney's ("Mohney") motion for partial summary judgment (Doc. No. 227); Defendant Bauer Nike Hockey, Inc.'s ("Bauer") motion for summary judgment (Doc. Nos. 219 & 234); Plaintiffs' motion to exclude Defendant's expert testimony (Doc. No. 224); Defendant's motion to exclude Plaintiffs' expert testimony (Doc. No. 219 & 236); Defendant's motion to strike affidavits filed in support of Plaintiffs' opposition to Defendant's motions for summary judgment (Doc. No. 267); Plaintiffs' motion to determine the sufficiency of Defendants' Objections and Admissions (Doc. No. 275); Plaintiffs' motion to

compel satisfaction of expert costs (Doc. No. 318); Plaintiffs' supplemental motion for the satisfaction of expert costs (Doc. No. 326); Plaintiffs' motion for order for oral argument for purposes of clarification of issue prior to mediation conference (Doc. No. 352); Plaintiffs' motion for oral argument (Doc. No. 357); and Plaintiffs' motion to compel/motion for sanctions (Doc. No. 265), which the Court previously took under advisement.

The Court has jurisdiction to decide this matter pursuant to 28 U.S.C. § 1332. For the reasons stated below, Defendant's motion to strike affidavits filed in support of Plaintiffs' opposition to Defendants' motions for summary judgment will be granted in part and denied in part. Plaintiffs' motion to determine the sufficiency Defendant's Objections and Admissions will be granted in part and denied in part. Defendant's motion to exclude Plaintiffs' expert testimony will be granted in part and denied in part. Plaintiffs' motion to exclude Defendant's expert testimony will be denied as moot. Defendant's motion for summary judgment will be granted. Plaintiffs' motion for partial summary judgment will be denied. Plaintiffs' motion to compel satisfaction of expert costs will be granted in part and denied in part. Plaintiffs' supplemental motion for the satisfaction of expert costs will be denied. Plaintiffs' motion for order for oral argument for purposes of clarification of issue prior to mediation conference will be denied as moot. Plaintiffs' motion for oral argument will be denied. Plaintiffs' motion for sanctions will be denied as moot.

#### BACKGROUND

The factual background of this matter is more fully set forth in *Mohney v. USA Hockey, Inc.*, 77 F.

*Supp.2d 859 (N.D. Ohio 1999)*. On May 21, 1995, Levi Mohney ("Levi") became a quadriplegic as a result of an incident that occurred while he participated in a scrimmage that was part of a developmental hockey camp. During the first scrimmage, one of the player's from Levi's team iced the puck by shooting it beyond the other teams red line. To avoid the imposition of an icing infraction against his team, Levi cut in front of Jason Reneger, a player from the other team. As the two players were quickly skating toward the boards, Renger fell into Levi from behind, and both players became entangled losing control and colliding with the boards causing Levi to sustain severe spinal damage at the C5-C6 level resulting in quadriplegia. At the time of the accident, Levi was wearing a helmet manufactured by Bauer and a face mask manufactured by Karhu. The mask was a cage type mask held in place by two j-clips. Plaintiffs assert that the mask released allowing Levi's head to torque into a crown position when the right-hand side j-clip dislodged when the two screw-nut combinations affixing the j-clip to the helmet vibrated loose.

This Court granted summary judgment to Defendants on all of the Monheys' counts, including his products liability claims. Plaintiffs appealed the judgment of this Court. The Sixth Circuit Court of Appeals affirmed in part and reversed in part. *Mohney v. USA Hockey, Inc.*, 248 F.3d 1150 (6th Cir. 2001). The Sixth Circuit Court of Appeals affirmed this Court's grant of summary judgment in favor of Defendants Reneger, USA Hockey, Central States Hockey League and Toledo Cherokees and reversed with respect to then Defendants Bauer and Karhu, USA Inc. ("Karhu"), allowing Plaintiffs' products liability claims to proceed.

The record in this case, includes volumes of deposition materials, multiple expert reports, an extensive (approximately thirty (30) hours) *Daubert* hearing and oral argument on *Daubert* motions, along with a Post-*Daubert* briefs and a number of other filings. Plaintiffs have now had an opportunity to develop and present evidence on their product liability claims.

Since the *Daubert* hearing, Plaintiffs and Karhu have negotiated a settlement, which has been filed under seal. (Doc. Nos. 347 & 348). The Court has delayed ruling on pending motions to afford Plaintiffs and Bauer an opportunity to resolve the within action by settlement. Those efforts appear to have been in vain and the Court will proceed to rule on all pending motions.<sup>1</sup>

## DISCUSSION

### 1. DEFENDANTS' MOTION TO EXCLUDE AFFIDAVITS

Pursuant to *Fed. R. Civ. P. 26 and 37*, Bauer moves the Court to exclude the affidavits of Jamey Cearley, Terry Cearley and Dr. S. Ramnath (Doc. No. 261, Exs. F, G, and E), Dr. S. Ramnath, and Dr. Daniel A. Funk (Doc. No. 260. Ex. A) which Plaintiffs have filed in opposition to Defendants' motions for summary judgment, and to exclude the testimony of Plaintiffs' retained experts. Defendant asserts that the affidavits of Jamey and Terry Cearley should be excluded because Plaintiffs' have failed to timely identify them as witnesses and, due to the speed of the incident, it is physically impossible for them to have seen whether Levi struck the boards face first followed by a torque into the crown position.

For purposes of Plaintiffs' opposition to Defendants' motions for summary judgment and to exclude testimony by Plaintiffs' retained experts, the relevant inquiry is not whether Jamey and Terry Cearley were able to see the torque of Levi's head, but rather whether they observed a face first impact. No valid argument has been proffered that either was unable to see the initial point of contact. With respect to the lack of identification, Jamey and Terry Cearley's names have been known to all parties since at least 1997. Thus, Jamey and Terry Cearley's affidavits are admissible.

Defendant also seeks to exclude the affidavits of Dr. Funk and Dr. Ramnath, arguing that it is tantamount to offering expert testimony in contravention of disclosure requirements in *Rule 26*. Dr. Funk's affidavit presents findings regarding the helmet-mask combination in this case and their role in causing Levi's head to torque from a face first to a crown position. This affidavit represents an attempt to buttress the opinions offered by Mr. Johanson and Dr. Collins, Plaintiffs' retained liability experts, with testimony from an unlisted/unidentified expert witness. Thus, Dr. Funk's affidavit is inadmissible and stricken in its entirety.

Plaintiffs argue that as Levi's treating physician Dr. Ramnath is qualified to testify as to the cause of his injuries without disclosure/designation as an expert, and accompanying written report pursuant to *Rule 26(a)(2)(B)* directing the Court to *Martin v. CSX Transp., Inc.*, 215 F.R.D. 554 (S.D. Ind. 2003). Initially, the Court observes that *Martin* does not endorse the position that a treating physician may testify without disclosure under *Rule 26(a)(2)(A) & (B)*. There the plaintiff had disclosed his treating physicians as



potential witness pursuant to *Rule 26(a)(2)(A)*. *Id.* at 555.

The *Martin* court did find that the treating physicians testimony was admissible without a written report stating:

It is within the normal range of duties for a health care provider to develop opinions regarding causation and prognosis during the ordinary course of an examination. To assume otherwise is a limiting perspective, which narrows the role of the treating physician. Instead, to properly treat and diagnose a patient, the doctor needs to understand the cause of the patient's injuries. As such, a physician "whose proposed opinion testimony will come from his knowledge acquired as a treating physician, is *not* someone from which a *Rule 26(a)(2)(B)* report is required."

*Id.* at 557 (citations omitted).<sup>2</sup> In so doing, in *Martin*, the court also asserted that the "disclosure under *Rule 26(a)(2)(A)* provides sufficient opportunity" for the defendant to discover and prepare for the treating physicians testimony. *Id.* at 557.

In *Hardyman v. Norfolk & Western Ry Co.*, 243 F.3d 255, 269 (6th Cir. 2001), the court asserted that treating physicians were permitted to testify based on their general experience as to the "diagnostic cause and effect" of the plaintiff's carpal tunnel syndrome. See also *Prater v. CONRAIL*, 272 F. Supp. 2d 706, 712 (N.D. Ohio 2003).

Courts consistently have found that treating physicians are not expert witnesses merely by virtue of their expertise in the respective fields. Only if their testimony is based on outside knowledge, not on personal knowledge of the patient and his or her treatment, may they be deemed experts.

*Fisher v. Ford Motor Co.*, 178 F.R.D. 195, 197 (N.D. Ohio 1998) (citations omitted). "The application of the Rule 26 disclosure requirements depends on the substance of the treating physician's testimony rather than his or her status." *Hawkins v. Graceland*, 210 F.R.D. 210, 211 (W.D. Tenn. 2002). See also *Brown v. Best Foods*, 169 F.R.D. 385, 387 (N.D. Ala. 1996); *Salas v. United States*, 165 F.R.D. 31, 33 (W.D.N.Y. 1995). In *Sullivan v. Glock, Inc.*, 175 F.R.D. 497, 501 (D. Md. 1997) the court stated:

To the extent that the source of the facts which form the basis for a treating physician's opinions derive from information learned during the actual treatment of the patient--as opposed to being subsequently supplied by an attorney involved in litigating a case involving the condition or injury--then no Rule 26(a)(2)(B) statement ~~should~~ be required.

By way of affidavit, Dr. Ramnath seeks to testify:

Levi Mohney was admitted to Flower Hospital on the morning of May 21, 1995. (Doc. No. 261, Ex. E, P1).

I completed the history and physical of Levi Mohney upon admission. A true and correct copy of the history and physical according to the Flower Hospital medical records is attached hereto as Appendix "A". *Id.* at P 2.

Levi Mohney presented with the following history upon admission: "This seventeen year old young man was playing hockey at approximately 11:00 this morning and was thrown face forward into the boards, striking his face against the boards." *Id.* at P 3.

Upon admission, I was called to the Emergency Room regarding a possible spinal cord injury and a fracture dislocation at C5-C6. *Id.* at P 4.

X-rays of the cervical spine showed a fracture of the anterior portion of C5 and dislocation of C5 on C6 with the posterior margin of C5 about 8-9mm posterior to the posterior margin of C6. A CT scan of the cervical spine showed fractures of the body of C5, fractured lamina of C5 on the left, a vertical fracture through body of C6 and a fractured transverse foramen at C7 on the left. *Id.* at P 5.

Levi Mohney sustained an immediate and complete spinal cord injury and my impression is recorded in the Flower Hospital records as a fracture/dislocation C5-6 with C5-6 quadriplegia. *Id.* at P 6.

The history that was obtained in the Flower Hospital Emergency, Room was provided by the

patient and his family within one (1) hour of the injury. *Id.* at P 7.

This affidavit is made based upon my personal knowledge and findings of May 21, 1995, as recorded in the Flower hospital medical records. This affidavit is also based upon my review of the x-ray films that were obtained upon admission. *Id.* at P 8.

I have had an opportunity to review the MiniDV tape of the accident. The accident is consistent with the history recorded in my records. Levi Mohny hit the boards face first. Subsequent to the initial impact, his head rotates down so that the crown of his head is in contact with the boards. *Id.* at P 9.

This history is consistent with the facial impact and rotation into a crown presentation with a vertical load and hyperflexion type of injury. *Id.* at P 10.

The injuries of Levi Mohny sustained are consistent with the history and physical findings of the injury recorded in the medical records of Flowers Hospital, and with the tape of the accident. *Id.* at P 11.

It is clear that Paragraphs 1-8 contain information related to Dr. Ramnath's role as Levi's treating physician, and are admissible. The status of Paragraphs 9-11 are different.

The substance of these paragraphs is synonymous with the type of testimony offered by Dr. Richard Collins, Plaintiffs' causation expert, and is based on information learned outside the scope of Dr. Ramnath's role as Levi's treating physician. The Court acknowledges that Paragraph 10 does not mention the Mini-DV tape and Paragraph 11 references Levi's medical history along with the tape. The content of these paragraphs, however, is inherently linked to Dr. Ramnath's review of the Mini-DV described in Paragraph 9. Otherwise they would provide nothing more than that contained in Paragraphs 1-8, which describe Levi's medical condition, and incorporate his medical records and history.<sup>3</sup> Dr. Ramnath's affidavit is admissible only to the extent that it buttresses and is derived from his role as Levi's treating physician. Therefore, Paragraphs 9, 10 and 11 are stricken.

Thus, Defendants' motion to strike the affidavits of Jamey and Terry Cearley, Dr. S. Ramnath and Dr. Daniel A. Funk is granted in part and denied in part.

## **2. PLAINTIFFS' MOTION TO DETERMINE SUFFICIENCY OF DEFENDANTS' OBJECTIONS AND ADMISSIONS**

*Fed.R.Civ.P. 36(a)* sets forth in pertinent part:

If objection is made, the reasons therefor shall be stated. The answer shall specifically deny the matter or set in detail the reasons why the answering party cannot truthfully admit or deny the matter. A denial shall fairly meet the substance of the requested admission, and when good faith requires that a party qualify an answer or deny only a part of the matter of



which an admission is requested, the party shall specify so much of it as is true and qualify or deny the remainder. An answering party may not give lack of information or knowledge as a reason for failure to admit or deny unless the party states that the party has made a reasonable inquiry and that the information known or readily obtainable by the party is insufficient to enable the party to admit or deny. A party who considers that a matter of which an admission has been requested presents a genuine issue for trial may not, on that ground alone object to the request;

...

The party who has requested the admissions may move to determine the sufficiency of the answers or objections. Unless the court determines that an objection is justified, it shall order that an answer be served. If the court determines that an answer does not comply with the requirements of this rule, it may order either that the matter is admitted or that an amended answer be served.<sup>4</sup>

Plaintiffs has moved to determine the sufficiency of Defendants Objections and Admissions with respect to Requests 2, 3, 4, 5, 6, 7, 8, 9 and 12 and request that the Court enter an order that each be deemed admitted. They assert that Defendant's responses fail to comply with *Rule 36(a)*.<sup>5</sup>

Request 2: Any and all "warnings" that accompanied the Jofa mask have been produced

in discovery in this case and are limited to the document that was identified as document 0005 at the deposition of the Jofa corporate designee. Also, any and all warnings that accompanied the helmet have been produced in discovery.

Request 3: Absolutely no instructions and/or warnings were provided concerning the type of hardware and/or type of screws to be used to affix or join together the products that are the subject of this litigation.

Request 4: One of the two (2) brackets (also referred to in this case as L [sic] j-clips that was used to mount the subject mask to the subject helmet failed at the time the product impacted the boards and Levi Mohnney was injured.

Request 5: Levi Mohnney's head was up at the time the subject product came into impact with the boards.

Request 6: At the time Levi Mohnney was injured, the mask came into contact with the boards and the force of this impact caused one of the L [sic] j-clips/bracket to fail.

Request 7: Defendant, Jofa, and Defendant, Cooper [sic] Bauer, both were aware of the "Heads Up: Don't Duck Program" and the importance of the position of a hockey player's head as a way of preventing spinal cord injuries prior to Levi Mohnney being injured. In addition to this Request for Admission, please consider this particular request as a request to produce

all documents in their possession related to the "Heads Up: Don't Duck Program" and/or incidence of spinal cord injuries and/or relationships of such injuries to hockey helmets and/or mask in the possession of the Defendants on or before the date of Levi Mohny's injury.

Request 8: The helmet and mask that are the subject of this litigation were not compatible pursuant to the standards established by H.E.C.C. and/or ASTM. Please consider all copies of the compatibility lists in the possession of the Defendants.

Request 9: The products did not contain a warning that the Cooper helmet and Jofa mask were not to be used together and/or not compatible.

Request 12: The mask and helmet that are the subject of this litigation did not properly fit together.

Bauer denied Requests 4 and 6. Defendant answered that after reasonable inquiry, based on information known or readily available, that it was unable to admit or deny Request 5. Moreover, the testimony and other evidence demonstrates that these facts are in dispute and are central to the outcome of this matter. Thus, Requests 4, 5 and 6 are not deemed admitted.

Request 2 is vague and overly broad. Further, the discovery process, including depositions and the Court's orders to produce relevant documents, has

satisfactorily addressed this issue. Therefore, Request 2 is not deemed admitted beyond that already stated. Bauer denied Request 3. and objected to this request on the basis that it lacks knowledge regarding "instructions and/or warnings" accompanying the mask or those provided by any other unidentified entities. Regarding Request 9, Bauer admits that it was not required to provide a warning regarding compatibility, and objected to the request with respect to the mask on the basis that it lacked knowledge regarding warnings provided with the mask. The qualified denials are proper under *Fed.R.Civ.P. 36(a)*. Moreover, these requests are vague, especially in this case where a third-party affixed the mask to the helmet. Therefore, Requests 3 and 9 are not deemed admitted.

As to its own knowledge, Defendant objected to Request 7 on the basis that the request was vague and ambiguous. Bauer also objected to the request regarding Karhu's knowledge. The Court's review of deposition testimony by Bauer's corporate representatives demonstrates that Defendant was aware of the "Heads Up: Don't Duck" program and that the position of a hockey player's head was important to preventing spinal cord injuries. (Doc. No. 264, Weber Dep. p. 106-07). Thus, Request 7 is deemed admitted.

Testimony by Defendant's expert witness, Mr. David Halstead ("Halstead") establishes that the mask and helmet were neither compatible nor did they conform to relevant ASTM standards. (Doc. No. 231, Halstead Dep., pp. 210-11). Therefore, Requests 8 and 12 are deemed admitted. Thus, Plaintiffs' motion to determine the sufficiency of Defendants' Objections and Admissions, and deem these requests admitted is granted in part and denied in part.

### 3. DAUBERT MOTIONS

#### A. Daubert Standard

The legal standard to be used in *Daubert* challenges was set forth by Judge Bechtle in his memorandum opinion issued on February 1, 2001:

*Federal Rule of Evidence 702* obligates judges to ensure that any scientific testimony or evidence admitted is relevant and reliable. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147, 143 L. Ed. 2d 238, 119 S. Ct. 1167 (1999) (quoting *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 589, 125 L. Ed. 2d 469, 113 S. Ct. 2786). The party offering the expert has the burden of proving admissibility. *Daubert*, 509 U.S. at 592 n.10. The subject of an expert's testimony must be grounded in the methods and procedures of science and based on more than subjective belief or speculation. *Id.* at 589-590. Further, *Rule 702* requires that expert testimony assist the trier of fact, i.e., it must "fit" the issues in the case by having a "valid scientific connection to the pertinent inquiry." *Id.* at 591-92.

In determining "whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact," the court must assess whether the methodology underlying the testimony is scientifically valid and whether it can properly be applied to the facts in issue. *Id.* at 592-93. Furthermore, the court must examine the expert's conclusions in order to determine whether they can reliably follow from the facts known to the expert and the methodology used.



*Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 153 (3d Cir. 1999).

In *Daubert*, the Court identified several factors to assist courts in evaluating whether a scientific theory or methodology constitutes reliable scientific knowledge. These include: whether the theory or technique can be or has been tested; whether the theory has been subjected to peer review and publication; whether a technique has a known or potential rate of error and whether there are standards controlling the technique's operation; and whether the theory or method has general acceptance in the scientific community. *Daubert*, 509 U.S. at 593-94. These factors "are simply useful signposts, not dispositive hurdles that a party must overcome in order to have expert testimony admitted." *Heller*, 167 F.3d at 152.

In addition, a court should "exclude proffered expert testimony if the subject of the testimony lies outside the witness's area of expertise." <sup>4</sup> Weinstein's Fed. Evid. § 702-06[1], at 702-52 (2000). In other words, a party cannot qualify as an expert generally by showing that the expert has specialized knowledge or training which would qualify him or her to opine on some other issue. *Redman v. John D. Brush & Co.*, 111 F.3d 1174, 1179 (4th Cir. 1997); *Barrett v. Atl. Richfield Co.*, 95 F.3d 375, 382b (5th Cir. 1996).

Moreover, testimony of an expert that constitutes mere personal belief as to the weight of the evidence invades the province of the jury. *McGowan v. Cooper Indus., Inc.*, 863 F.2d 1266,

1273 (6th Cir. 1987); *STX, Inc. v. Brine, Inc.*, 37 F. Supp. 2d 740, 768 (D.Md. 1999) (quotation omitted), *aff'd*, 211 F.3d 588, 2000 WL 564010 (Fed. Cir. 2000); *Sec. & Exch. Comm'n v. Lipson*, 46 F. Supp. 2d 758, 763 (N.D. Ill. 1998).

Lastly, the court "should also be mindful of other applicable rules." *Daubert*, 509 U.S. at 595. *Federal Rule of Evidence* 703 "provides that expert opinions based on otherwise inadmissible hearsay are to be admitted only if the facts and data are 'of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject.'" *Id.* (quoting *Fed. R. Evid.* 703). Under *Rule* 703, "if the underlying data are so lacking in probative force and reliability that no reasonable expert could base an opinion on them, an opinion which rests entirely upon them must be excluded." *In re Paoli RR. Yard PCB Litig.*, 35 F.3d [717,] 748 (quoting *In re "Agent Orange" Prod. Liab. Litig.*, 611 F. Supp. 1223, 1245 (E.D.N.Y. 1985).

*In re Diet Drugs Prods. Liab. Litig.*, 2001 U.S. Dist. LEXIS 1174, No. MDL 1203, 2001 WL 454586, at \*5-6 (E.D. Pa. Feb. 1, 2001) (footnotes omitted). The district court is not required to hold a hearing to address a *Daubert* issue. See *Greenwell v. Boatwright*, 184 F.3d 492, 498 (6th Cir. 1999).

#### *B. Defendant's Daubert Motions*

The Mohneys' have retained the services of Mr. Norman Johanson and Dr. Richard Collins. Mr. Johanson has been retained to provide an opinion regarding alleged product defects associated with the

helmet-mask combination Levi was wearing at the time of the incident. Dr. Collins opines on the mechanism by which Levi sustained his injuries due to the alleged defects. Bauer asserts that the opinions and testimony of both Mr. Jonhanson and Dr. Collins should be excluded for failing to satisfy any of the four factors for determining reliability set forth in *Daubert*. Defendant also argues that there is substantial evidence indicating that Dr. Collins abandoned his role as a scientist and become a paid advocate of Plaintiffs.

The Court has conducted an extensive inquiry into the qualifications of Mr. Johanson and Dr. Collins, and the reliability of their opinions. This inquiry has included a review of their deposition testimony, expert reports, testimony during a *Daubert* hearing (consisting approximately thirty (30) hours of testimony), along with summary of such evidence during oral arguments.

#### 1. Mr. Johanson

##### a. Qualifications

Mr. Johanson holds a degree in mechanical engineering. He has significant experience in engineering that includes product design, review of safety issues, failure analysis, metallurgical evaluation functions and product testing. Thus, the Court finds that Mr. Johanson is qualified as an expert in mechanical engineering.

##### b. Reliability of Testimony

Mr. Johanson concludes that the incompatibility of the helmet and mask resulted in an asymmetric attachment of the mask.<sup>6</sup> This asymmetric fit was due to the interaction of the alignment of the two center vertical wires on the mask and the location of pre-

drilled holes on the front of the helmet. Mr. Johanson maintains that this asymmetric fit resulted in the mask's full engagement with the left-hand side j-clip, but only minimal engagement with the right-hand side clip. The minimal engagement created pressure in a counter clock wise direction that he believes exacerbated a pre-existing loose fit of the two screw-nut combinations affixing this j-clip to the helmet. According to Mr. Johanson, Levi's face striking the boards provided the final force necessary for these screw-nut combinations to instantly and simultaneously vibrate apart at or near the initial time of impact. As a result, the j-clip dislodged allowing the mask to release leading to the downward torque that Dr. Collins opines led to Levi's spinal injuries.

Mr. Johanson testified that because the relevant defects were readily apparent, he did not need to perform any testing to form his opinions in this case (Doc. No. 249, Johanson Dep. Vol. II, p. 12). The Court notes, however, that since his deposition and in response to the opinions of Defendant's experts, Mr. Johanson performed what he alleges to be a test demonstrating that the screws and nuts holding the j-clip in place can vibrate loose.

#### (1) Incompatibility of Mask and Helmet

Mr. Johanson's opines that the helmet-mask combination is incompatible as shown by the asymmetric fit as supported by his inspection and associated measurements. In his report, Mr. Johanson states: "Either the mask's wire spacing or the helmet's bolt hole spacing would have to be reduced to less than 1" or increased to more than 1.8" in order to have the Jofa mask attached symmetrically on the Cooper

helmet. The Jofa mask can only be attached by shifting the mask to one side or the other." (Doc. No. 224, Ex. G, p. 6). Mr. Johanson found that either the mask's wire spacing or helmet's bolt space must be adjusted to have the requisite symmetric fit. The Court acknowledges that visual inspection is sufficient to demonstrate that the helmet and mask fit together asymmetrically. His measurements represent an objective assessment regarding the cause of this fit, which can be verified and critiqued. Mr. Johanson's testimony regarding the incompatibility of the helmet and mask has a reliable basis. It is also consistent with the Court's disposition of the Mohnes' motion to determine sufficiency of Defendants Objections and Answers. Thus, Bauer's motion to exclude the testimony of Mr. Johanson on this issue is denied.

## (2) Hardware Affixing Mask to Helmet

Mr. Johanson opines that the right-hand side j-clip immediately and simultaneously dislodged as the result of the already loose fitting screw- nut combinations vibrating apart when Levi first collided with the boards.<sup>7</sup> In providing this conclusion he assumes that the remaining screw-nut combinations on the left-hand side j-clip are the same as those that were used on the right-hand side, which were never recovered. He concluded from observation that "minimal thread held the screw and nut in place." (Doc. No. 261, Ex. J, Johanson Aff., P 5).

The Court finds that Mr. Johanson's opinion regarding the dislodging of the right-hand side j-clip is deficient. His opinion regarding the screw-nut combinations fastening the right-hand side j-clip to the helmet is based on visual inspection and observation.



Mr. Johanson testified at his deposition that he did not attempt to determine the thread class of the screws. (Doc. No. 249, Johanson Dep. Vol I., pp. 210-11). He also stated that he made no effort to test whether the thread class on the left-hand side was or was not sufficient even though such testing could have been done. *Id.* at 211. Mr. Johanson conceded to this lack of measurement and testing during the *Daubert* Hearing (Doc. No. 315, *Daubert* Hearing, Vol. III, pp. 593, 595). He asserted, however, that the correct interpretation of his deposition testimony was he had no reason to believe that "thread class" itself was or was not sufficient, but maintained that the "thread class" was unsuited for affixing j-clips. *Id.* at 595. While this may be true, his testimony establishes a lack of objective replicable testing or analysis, controlled by any standards, in support of his opinion that screw-nut combinations used to affix the j-clips to Levi's helmet were insufficient.

To buttress his opinion, and to refute the opinions of Defendant's experts, Mr. Johanson conducted a "test" by shaking the j-clip back and forth with his hand while resting an exemplar helmet on a table. (Doc. No. 315, *Daubert* hearing, Vol. III, pp. 598-600).<sup>8</sup> Mr. Johanson's shaking of a j-clip, however, is really no test at all. While he asserts that the force he exerted was less than that if combined with the asymmetry characterizing Levi's helmet and mask (*Id.* at 599), Mr. Johanson failed to explain or specify how the alleged test conditions otherwise replicated or even approximated those at the time of the incident. In short, Mr. Johanson's shaking of the j-clip is nothing more than an *ad hoc* demonstration without any controlling standards, rather than an objective scientific test that is replicable and verifiable.

Moreover, his testimony and report also establish that he has cited no research or publications of any kind quantifying the impact forces necessary to vibrate loose the screw-nut combinations used to fasten the j-clips to Levi's helmet. Though Mr. Johanson may be correct in his opinion, admissibility turns on whether his opinion is the end product of a reliable methodology, which it is not. As a consequence, his testimony regarding the failure of the right-hand side j-clip must be excluded.

## 2. Dr. Collins

### a. Qualifications

Dr. Collins holds a Ph.D. in mechanical engineering. Dr. Collins has several scientific journal publications and reports to his credit. In addition to his position at Robson-Lapina, an expert consultative firm, when issuing his first report in this case, he has held positions as a professor of biological and medical engineering, physics, medicine, mathematics and biomedical and human factors engineering. Thus, the Court finds that Dr. Collins is qualified as an expert in the field of bio-mechanical engineering.

### b. Reliability of Testimony

Dr. Collins has submitted a report along with two supplements containing his findings (Doc. No. 224, Ex. E). These reports along with his testimony during the *Daubert* hearing detail his theory and method of analysis demonstrating how the release of the mask resulted in the complete dissipation of the horizontal force acting on Levi's head. The complete and instantaneous dissipation of the horizontal force allowed the vertical force to dominate, resulting in a vertical torque that caused Levi's head to move from a face first position to a crown position causing a burst

fracture of the C-5 to C-6 region resulting in quadriplegia (Doc. No. 246, Collins Dep., Vol. III, pp. 765-69). Critical to this conclusion is that the right-hand side j-clip dislodged either before or at time of initial impact, the underpinning for which he must rely on the opinion of Mr. Johanson.

As an initial matter, the Court must address Bauer's argument that several documents exchanged between Dr. Collins, Lance Robson and Tom Lacek during Dr. Collins employment at Robson-Lapina individually and collectively demonstrate that Dr. Collins has abandoned his role as an expert scientist blindly adopting Levi's testimony, and, following instructions from his attorneys, fabricated an opinion to conform to Plaintiffs' pre-existing theory of liability. These documents include several e-mails and preliminary reports downloaded from the Robson-Lapina computers, some of which indicate that Dr. Collins believed Levi sustained his injury from a crown first impact. (DH-6).

The Court is persuaded by Plaintiffs' arguments that Dr. Collins neither collaborated with the Plaintiffs' attorneys nor abandoned his role as an expert. Before the *Daubert* hearing, Mr. Robson, the President and a principle of Robson-Lapina, provided an affidavit clarifying that his criticisms of Dr. Collins were not directed at his failure to follow the scientific method or abandon his neutral role as a scientist. (Doc No. 274, Ex. A). In his affidavit, Mr. Robson maintains Dr. Collins initial report, issued during his employment at Robson-Lapina, was based on appropriate application of engineering and scientific principle and method of analysis based on the facts and information in this case. *Id.* at P 14. Mr. Robson provided similar testimony at the *Daubert* hearing. Tom Lacek, Dr. Collins' mentor at

Robson-Lapina, provided an affidavit (Doc No. 274, Ex. B) and testimony at the *Daubert* hearing whose relevant sum and substance is the same.<sup>9</sup>

Moreover, the Court is convinced by Dr. Collins own testimony that these documents represent the interactive process all scientific inquires undergo in the evolution of a working hypothesis designed to reconcile all of the facts and data in a given situation. He describes the documents as illustrating a progression toward the torquing theory described in increasing detail in all of his published reports in this case. Dr. Collins also testified at the *Daubert* hearing that communication with Plaintiffs' counsel represents nothing more than the communication between a professional and his client. He also testified that he would neither change a report at an attorney's request nor include anything that he could not properly defend and support. Dr. Collins *curriculum vitae* demonstrates that he is a well published and respected member of the academic community. He is a man who has held several professorships at reputable universities. The Court finds it hard to believe that he would be willing to tarnish his distinguished career over this case. Thus, the Court rejects Defendant's assertion that Dr. Collins' opinion should be rejected as a "concocted theory" developed at the behest of the Plaintiffs' attorneys.

Dr. Collins' first supplemental report, dated July 30, 2002, contains measurements he performed regarding the distance of the mask from the front of the helmet, and a *qualitative* explanation of how this contributed to the rotational forces he argues took place as Levi struck the boards. (Doc. No . 224, Ex. E, First Supplement, pp. 1-2). In presenting his findings he

notes that the front of the mask, in violation of ASTM standards, extends more than 8 inches from the front of the helmet, having the affect of increasing downward torque on Levi's head such that it rotated from face first to a crown impact with the boards. *Id.* In his second supplemental report, dated October 16, 2002, Dr. Collins uses several pieces of information to develop an illustrative *quantitative* analysis. (Doc. No. 224, Ex. E, Second Supplement, pp. 2-7). He describes this *quantitative* assessment as being grounded in Newton's laws of physics.

The Court focuses its attention on the second supplemental report and Dr. Collins testimony. This report represents the culmination of his analysis and most rigorous support for his novel application of dynamics in analyzing the mechanism of Levi's injuries. Under cross-examination, Defendants listed seven (7) inputs, most of which are assumptions, upon which Dr. Collins analysis and use of Newton's laws depends. These inputs are: 1) Levi was traveling at a speed/velocity of 7.8 mph prior to colliding with the boards; 2) the initial orientation of Levi's head was 72 degrees from the horizontal (based on a published paper of Dr. Richard Bishop an expert Karhu and Bauer have retained in this case); 3) a 45 degree angle of Levi's head upon impact; 4) the impact was with the upper portion of the mask; 5) the boards were rigid relative to the mask; 6) the deformation and release of the mask upon impact was instantaneous (i.e. causing complete dissipation of the horizontal force); and 7) the release of the j-clip as described by Mr. Johanson. (Dec. No. 314, *Daubert* hearing, Vol II., pp. 339-42, 349-50).<sup>10</sup>

Dr. Collins report states, and his testimony confirms, that he estimated 7.8 mph based on a review



of a CD-ROM version of the incident. This was not based on the imposition of a time clock on the frame sequence of the event. During the *Daubert* hearing, the Defendants proffered a CD-ROM version of the incident taken from the Mini-DV version with a time sequence burned onto the frames. Plaintiffs did not object after being assured of proper media transfer and representation that the frame rate was thirty (30) frames per second. Defendants also produced a copy of a blue print with the dimensions of the ice rink. (DH-9).

After reviewing the time sequence, together with the dimensions from the blue print, Dr. Collins conceded that the velocity of Levi's impact was probably double what he estimated and as a result the amount of time for the torque to occur was half of the 14.55 milliseconds he estimated. *Id. at 377-78*. Dr. Collins' testimony clarified that determining the frame rate would have been of assistance in conducting his method of analysis. *Id. at 381-82*. He also conceded that he did not have the dimensions of the ice rink when he made his estimate, even though it would have been easy to obtain the blue print Defendant produced.

Dr. Collins also can no longer rely on the abrupt release of the j-clip, which is not a mere input but a necessary prerequisite for his rendition of events. The Court has already ruled that Mr. Johanson's opinion on that issue is inadmissible, and even if Dr. Collins has adopted it as his own, he provides no basis for such an opinion. Moreover, in response to the Court's inquiry, Dr. Collins testified that even without the instantaneous release of the right-hand side j-clip, the shape of the face mask might induce the torque necessary to have caused Levi's injuries, after which the whole mask detaches. (Doc. No. 314, *Daubert*

hearing, Vol. II, pp. 353-54) Dr. Collins, however, also testified that he has not pursued this "analysis in any detail." *Id.* at 353.

Plaintiffs argue that such infirmities go toward the weight of Dr. Collins' analysis rather than its admissibility directing the Court to *Quiet Tech. DC-8, Inc. v. Hurel-Dubois UK LTD.*, 326 F.3d 1333 (11th Cir. 2003) and *Ford v. Nationwide Mut. Fire. Ins. Co.*, 62 Fed. Appx. 6 (1st Cir. Apr. 8, 2003). In *Quiet Tech.*, the court stated that the plaintiff's argument, which was not directed at the validity of the methodology employed, "but rather that the specific numbers ... used were wrong," goes to the weight of the evidence, and are best exposed through cross-examination. *Id.* 1345 (citations omitted). Likewise, in *Ford*, the court affirmed the admission of the defendant's accident reconstructionist where the plaintiffs challenged the foundation. *Ford*, 62 Fed. App. at \*\*7-11. The Court, however, is persuaded that the aforementioned shortcomings in Dr. Collins analysis combined with an overwhelming reliance on assumed values impugns the reliability of his analysis, especially in light of the novelty of his theory.

In *Coffey v. Dowley Mfg., Inc.*, 187 F. Supp.2d 958 (M.D. Tenn. 2002), *affd.*, No. 02-5454, 89 Fed. Appx. 927, 2003 U.S. App. LEXIS 26610 (6th Cir. Dec. 18, 2003) the plaintiff was injured while using a Super Hub-Shark ("SHS"), an automotive tool. The plaintiffs hired a professor of mechanical engineering who opined that the SHS was defective in design because the bolts would fail due to tensile and bending loads when used to remove hubs and rotors. The expert visually inspected the SHS, and conducted a computerized finite element analysis "to determine the torque that would

be required to fracture the stud bolts." *Coffey*, 187 F. Supp.2d at 962. He acknowledged having assumed "certain variables in completing the finite element analysis." *Id.* at 964. The *Coffey* court found that several of these assumptions were incorrect and stated:

If [the expert] assumed certain parameters for his computerized finite element analysis, and those parameters were later proven to be incorrect, then the conclusion reached by the computer model would also be incorrect. This would be true if any of the parameters assumed by [the expert] were incorrect.

*Id.* at 974.

In *Coffey*, the court also asserted:

Lastly, [the expert] relied on a finite element analysis that was the product of a number of "guesstimations" and speculations. Like a house of cards, once those foundations are disproved, the whole analysis collapses. Here, [the expert's] use and reliance upon a faulty finite element analysis constituted a faulty method, based upon faulty principles. (emphasis added).

*Id.* at 976.

In addition, in *Coffey*, relying on *Pride v. BIC Corp.*, 218 F.3d 566, 578 (6th Cir. 2000), the court maintained that reliance upon a theoretical form of testing did not represent an appropriate means of validating the expert's opinion because actual physical testing could have been done. *Id.* at 977. The parallels between the

deficiencies of the expert in *Coffey*, and Dr. Collins' analysis now before the Court, are unmistakable. Dr. Collins acknowledged that physical testing could have been conducted to evaluate and verify his opinions and conclusions. (Doc. 245, Collins dep., Vol II, p. 491).

Even assuming *arguendo* that physically replicating the conditions present when Levi collided into the boards may be difficult and/or cost prohibitive, there were other available options to test Dr. Collins novel theory. The substantial reliance on assumed values for the parameters in the mathematical equations that form the basis of this method of analysis mandates that the selection of these values be validated by at least minimal testing. Dr. Collins could have employed computer modeling. He also might have used sensitivity analysis by assuming not only different values for all the assumed values but also different speeds, which he himself described as a standard practice. (Doc. No. 314, *Daubert* hearing, Vol II, pp. 342, 389). By assessing results in this manner, potential error rates in analysis and computation might have been developed and the robustness of the base analysis determined. All of this is missing from Dr. Collins analysis.

Plaintiffs argue, and the Court recognizes, that the use of dynamics (i.e. analysis of forces to predict motion in objects) even without actual testing may be recognized as a valid form of analyzing product design and their motion. See *Clay v. Ford Motor Co.*, 215 F.3d 663 (6th Cir. 2000). In *Clay*, the court affirmed admission of an expert's opinion premised on dynamics to reconstruct the sequence of events in an automobile accident. The expert had never worked in the automobile manufacturing industry, tested a model of

the vehicle at issue, or published "an article on auto handling and stability, although he had made presentations on those topics." *Id. at 668*. The expert's investigation was limited to reviewing a police accident report, some depositions, statements, photos and visiting the scene the day before testifying. *Id.* The defendant challenged admissibility based on the experts's failure to test his theories that the subject vehicle oversteers and jacks, not the propriety of using dynamics. The *Clay* court asserted that "the district court in its discretion, could have decided that [the expert's] failure" went to the weight, not admissibility of his testimony. *Id. at 668-69*.

The Mohneys also assert that Dr. Collins testimony should not be excluded because of his years of experience as a published and well respect bio-mechanical engineer. See *Clark v. Chrysler Corp.*, 310 F.3d 461 (6th Cir. 2002). In *Clark*, the court rejected the defendant's challenge to the admission of the plaintiff's experts due to a lack of testing relative to the accident at issue. The *Clark* court affirmed the admission of the B-Pillar expert's testimony as he had a thorough technical knowledge of door latch systems, conducted extensive testing on latch systems including bypass failure which the plaintiff alleged, developed a test for bypass failure adopted by the government, demonstrated familiarity with the type of latch at issue, examined the actual latch along with others of the same kind, and showed knowledge of the "state-of-the-art and state-of the industry in door latches" at the time the decedent's truck was made. *Id. at 467-70*. Similarly, the latch expert had an extensive background in automobile safety testing including crash tests involving door latches, examined the subject truck, accident scene,



police report, photos and depositions, and testified as to the state-of-the-art and state-of-the-industry and general testing of B-Pillars at the time the truck was made. *Id.* at 470-72.

While Dr. Collins' may have applied Newton's Laws of Physics in conducting an analysis of forces, reviewed photos and depositions, measured and examined the head protection system Levi wore, the novelty of Dr. Collins along with the infirmities of this theoretical analysis makes the lack of testing glaring and egregious. Indeed, neither the Court nor any expert testifying in this case has been able to identify any tests or scholarly literature, using dynamics or otherwise, documenting the mechanism of injury Dr. Collins opines occurred to Levi. See *Demaree v. Toyota Motor Corp.*, 37 F. Supp.2d 959 (W.D. Ky. 1999).<sup>11</sup> Moreover, the record fails to establish that Dr. Collins' experience as it applies to this case approaches that found to be satisfactory in *Clark*.

In sum, Mr. Johanson's opinion that the helmet and mask at issue are incompatible is admissible, but his testimony regarding the failure of the j-clip and release of the mask when Levi struck the boards is not. Dr. Collins opinion regarding the mechanism of injury is excluded in its entirety. Thus, Bauer's motion to exclude the testimony of Mr. Johanson and Dr. Collins is granted in part and denied in part.

#### *C. Plaintiffs' Daubert Motion*

Bauer has retained the services of four expert witnesses. These experts include Dr. Patrick J. Bishop, Dr. Joseph Torg, Dr. Lawrence Thibault, and Mr. David Halstead. The Court need not consider whether Defendant's expert witnesses satisfy the *Daubert*

requirements. The opinions of Mr. Johanson and Dr. Collins do not satisfy the requirements set forth in *Daubert*, and his failure to warn claim fails without considering the admissibility of any expert testimony. Therefore, the Mohneys' motion to exclude Defendant's expert witnesses is denied as moot.

#### 4. MOTIONS FOR SUMMARY JUDGMENT

##### A. Summary Judgment Standard

As an initial matter, the Court sets forth the relative burdens of the parties once a motion for summary judgment is made. Summary judgment must be entered "against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial." *Celotex Corp. v. Catrett*, 477 U.S. 317, 322, 106 S. Ct. 2548, 2552, 191 L. Ed. 2d 265 (1986). Of course, the moving party always bears the initial responsibility of informing the district court of the basis for its motion, and identifying those portions of "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any," which it believes demonstrate the absence of a genuine issue of material fact. *Id.* at 323, 106 S. Ct. at 2553. The burden then shifts to the nonmoving party who "must set forth specific facts showing that there is a genuine issue for trial." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250, 106 S. Ct. 2505, 2510, 91 L. Ed. 2d 202 (1986) (quoting *Fed. R. Civ. P.* 56(e)).

Once the burden of production has so shifted, the party opposing summary judgment cannot rest on its pleadings or merely reassert its previous allegations. It

is not sufficient "simply [to] show that there is some metaphysical doubt as to the material facts." *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586, 106 S. Ct. 1348, 1356, 89 L. Ed. 2d 538 (1986). Rather, Rule 56(e) "requires the nonmoving party to go beyond the [unverified] pleadings" and present some type of evidentiary material in support of its position. *Celotex*, 477 U.S. at 324, 106 S. Ct. at 2553. Summary judgment shall be rendered if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. *Fed. R. Civ. P. 56(c)*.

#### *B. Defendant's Motion for Summary Judgment*

Bauer moves for summary judgment on the Mohneys' products liability claims and presents several arguments in support thereof. The Court finds that the issues of whether Bauer is a manufacturer under Ohio law, the inadmissibility of Plaintiffs' expert opinions, and Levi's testimony that he failed to read any warnings are dispositive.<sup>12</sup>

##### 1. Bauer is Only a Component Manufacturer

Bauer asserts that under Ohio law, as a manufacturer of non-defective components, it is not liable for any alleged defects introduced due to its helmet's combination with Karhu's mask on the part of a third-party. O.R.C. § 2307.71(M) provides in pertinent part:

"Products liability claim" means a claim that is asserted in a civil action and that seeks to recover compensatory damages from a

manufacturer or supplier for death, physical injury to person, emotional distress, or physical damage to property other than the product in question, that allegedly arose from any of the following:

- (1) The design, formulation, production, construction, creation, assembly, rebuilding, testing or marketing of that product;
- (2) Any warning or instruction, or lack of warning or instruction, associated with that product.
- (3) Any failure of that product to conform to any relevant representation or warranty.

Relatedly, O.R.C. § 2307.71(I) defines manufacturer as "a person engaged in a business to design, formulate, produce, create, make construct, assemble, or rebuild a product or a component of a product."<sup>13</sup> "Under this definition an entity is a manufacturer if it assembles components into a design which creates a product." *Leibreich v. A.J. Refrigeration, Inc.*, 67 Ohio St. 3d 266, 1993 Ohio 12, 617 N.E.2d 1068, 1073 (Ohio 1993). In *Leibreich*, the defendant asserted that it was not liable as a manufacturer since there was "no allegation that the refrigeration unit was defective or negligently installed." *Id.* at 1072. The plaintiff countered that the defendant played the most important role in creating "a new product, allegedly a defective product, through its design and assembly of components." *Id.* The Ohio Supreme Court reversed the trial court's grant of summary judgment to the defendant stating:

Given A.J. Refrigeration's role in the design and assembly of the truck, appellants claim that A.J. Refrigeration is responsible for ensuring that the delivery truck was safe for its intended use. Appellants argue that A.J. Refrigeration should have recommended and included in the design a different braking system which would have held the truck stationary when it was left unattended with the engine running. The evidence on the issue of whether A.J. Refrigeration was a manufacturer for purposes of strict liability in torts supports competing inferences. Determining how much input and final control A.J. Refrigeration had over the design and assembly process is a question for the jury to determine.

*Id.* at 1073.

In contrast to Bauer, the defendant in *Leibrich* played a direct role in installing and integrating its refrigeration unit (i.e. component) into a larger system of non-defective components that allegedly resulted in a dangerous final product. *Id.* See also *Miles v. Kohli & Kaliher Assoc. Ltd.*, 917 F.2d 235, 245 (6th Cir. 1990) (duty to warn arises where the components manufacturer also provided the specifications and instructions for assembling the finished product).

In *Jacobs v. E.I. DuPont De Nemours & Co.*, 67 F.3d 1219, 1242 (6th Cir. 1995) the court maintained that "where a component part is not dangerous until incorporated into a finished product, courts have held that the component part supplier cannot be held liable on a common law design or manufacturing defect



theory, unless the supplier exercised some control over the final products design." Likewise, in *Schaffer v. A.O. Smith Harvestore Prods., Inc.*, 74 F.3d 722, 729 (6th Cir. 1996), the court stated under Ohio law "without any evidence of defect in the component parts themselves, summary judgment is appropriate as to [] defective products claims." See also *Cervelli v. Thompson/Center Arms*, 183 F. Supp.2d 1032, 1046 (S.D. Ohio 2002) (asserting that under Ohio law manufacturers of non-defective components have not duty to warn about the dangers that may result from its integration into a product where the component manufacturer did not participate in the design or assembly process); *Temple v. Wean United, Inc.*, 50 Ohio St. 2d 317, 364 N.E.2d 267, 272 (Ohio 1977) (holding that the duty to warn "does not extend to the speculative anticipation of how manufactured components, not in and of themselves dangerous or defective, can become potentially dangerous dependent upon the nature of their integration into a unit designed and assembled by another").

Here, Plaintiffs argue that Bauer is a manufacturer because a helmet is a final product placed into the stream of commerce. During depositions prior to the *Daubert* hearing both Dr. Collins and Mr. Johanson testified that the incompatible combination of the mask and helmet, which are components of head protection system created the product defect (Doc. No. 245, Collins Dep., Vol. II, p. 497; Doc. No. 249, Johanson Dep., Vol. II, pp. 50-51, 118). Moreover, Mr. Johanson describes the mask and helmet as components of a head protection system (Doc. No. 249, Johanson Dep., Vol. II, p. 98). He also stated that the mask does not have the same defective nature if used with an appropriate

helmet. (Doc. No. 249, Johanson Dep., Vol. II, pp. 120-21). Mr. Johanson did not equivocate from this position at the *Daubert* hearing. Mr. Johanson testified:

Q. Mr. Johanson, do you have an opinion as it relates to warnings whether or not the manufacturer should have informed Levi that the Cooper helmet and the Jofa facemask shouldn't be used together?

A. I do.

Q. And what is that opinion, sir?

A. The opinion is that both of the manufacturers of the component parts that make up a head protection system, that being the manufacturer of the helmet and that manufacturer of the mask,  
...

(Doc. No. 314, *Daubert* hearing, Vol. II, p. 442) (emphasis added).

He also testified:

Q. To your knowledge did Dr. Collins then incorporate that finding and that opinion, your learned opinion, into his injury analysis?

A. I believe he did.

Q. Thank you. Please continue.

A. After reviewing the mask to helmet attachment characteristics, I then entered into

my analysis. The preface to the analysis, I identify helmets and facemasks as two components of an ice hockey head protection system ...

(Doc. No. 315, *Daubert* hearing, Vol. III, p. 535) (emphasis added).

Mr. Johanson further stated:

Q. What steps did you take to determine how often an incompatible facemask can rotate and torque -- I'm sorry, I used the word -- torque into a crown-first presentation.

A. I don't believe that question is appropriate for the incompatibility defect we have here. You have two major components of a head protection system that are incompatible and hazardous to a user ...

*Id.* at 643 (emphasis added).

Plaintiffs provide no evidence that Bauer combined the helmet and mask into a single unit. Timothy Mohny testified that when the helmet at issue was purchased it had not come with a mask already attached as he would have used a mask already at home. (Doc. No. 39, T. Mohny Dep. Vol. I, pp. 37-38). Levi also testified that when the helmet was purchased it did not come with the mask attached, nor could he remember whether the mask and helmet were even purchased at the same time. (Doc. No. 40, L. Mohny Dep., Vol. I, p. 145). Levi has since testified that the components came together as a helmet-mask combination. (Doc. No. 247, L. Mohny

Dep., Vol. II, p. 280). Nevertheless, it is undisputed that Bauer did not sell its products as a single unit, and that whether purchased separately or as a unit, a third-party combined the helmet and mask into the helmet-mask combination Levi wore at the time of the incident.

Jean Francois Laprier, a corporate designee of Bauer, testified that the helmet in this case was designed to be used with j-clips and that the purpose of the j-clips was to hold the mask in place, comply with requisite impact tests and avoid collapsing inward (Doc. No. 263, Laprier Dep., pp. 36-37, 44-45). Granted, there appears to be some doubt as to who provided the j-clips and associated screw-nut combinations for affixed to Levi's helmet. Mr. Laprier asserts that the j-clip hardware, including the clip, are "sold with the face mask." *Id.* at 37. On the other hand, Plaintiffs contend that Halstead's testimony at the *Daubert* hearing establishes that the j-clips likely came from Bauer, or at least raises a factual issue. With respect to an exemplar, not Levi's helmet, Mr. Halstead testified.

Q. The white J-clips that you're referring to, who provided those J-clips? Did they come from the manufacturer of -- Cooper, Bauer Nike?

A. My suspicion is -- and it is a suspicion; I'm pretty certain -- I'm more than pretty certain they didn't come from Jofa, because I don't believe they came with the face protector. They probably came from Bauer. That would be my best guess. I'm not certain of that.

Q. So it's your understanding that the J-Clips would have come from Bauer Nike but not from Jofa; is that correct, sir?

A. Those particular J-clips could have come from Bauer Nike and probably did not come from Jofa; that's as good as I can get it for you, Mr. Jug.

(Doc. No. 315, *Daubert* hearing, Vol. III, p. 796).

The record establishes, however, that Bauer was not the entity responsible for providing *instructions* on the assembly of Levi's mask and helmet. In fact, Laprier has testified that it was the responsibility of the mask manufacturer to specify whether j-clips are to be used with a particular mask or not. (Doc. No. 263, Laprier Dep., p. 42). Similarly, Larry Weber, another corporate designee of Bauer, testified that if sold separately, the mask manufacturer was to provide instructions on how to properly use j-clips. (Doc. No. 264, Weber Dep., p. 90). The mask was supposed to be accompanied by literature that included a section entitled "Mounting Instructions" specifying how the mask was to be affixed to a helmet. (Doc. No. 227, Ex. F).<sup>14</sup> Accordingly, Bauer is not a manufacturer for purposes of Levi's products liability claims and is entitled to summary judgment.<sup>15</sup>

## 2. Insufficient Evidence Due to Exclusion of the Plaintiffs' Experts

Bauer also moves for summary judgment arguing that the exclusion of Mr. Johanson and Dr. Collins leaves Plaintiffs without any competent evidence of product defect and causation. "A plaintiff cannot



recover on a product liability claim unless he establishes, by a preponderance of the evidence, that the product was defective in manufacture or construction, was defective in design or formulation, was defective due to inadequate warning or instruction, or because it did not conform to a representation made by its manufacturer." *United States Aviation Underwriters, Inc. v. B.F. Goodrich Co.*, 149 Ohio App. 3d 569, 2002 Ohio 5429, 778 N.E.2d 122, 126 (Ohio Ct. App. 9th Dist. 2002). A plaintiff must also demonstrate that the alleged defect was the proximate cause of his injury. *United States Aviation*, 778 N.E.2d at 126-27. See also *Kelley v. Cairns & Bros., Inc.*, 89 Ohio App. 3d 598, 626 N.E.2d 986, 993 (Ohio Ct. App. 9th Dist. 1993).

The Court has excluded Mr. Johanson's opinion as to the failure of the right-hand side j-clip used to affix the facemask to Levi's helmet were insufficient resulting in its dislodgment of the right-hand side j-clip is deficient, on which Dr. Collins' opinion depends. In addition to the myriad of its own shortcomings, exclusion of evidence as to the j-clip's failure is fatal to Dr. Collins' opinion. While there may be other theories upon which the purported torque of Levi's head might have occurred, Plaintiff is left without any admissible evidence as to the alleged defect and proximate cause of what is plainly a very abrupt complex sequence of events. Thus, Bauer is entitled to summary judgment on all, but Plaintiffs' failure to warn claims on this basis, which the Court addresses based on a lack of proximate cause particular to failure to warn claims.

### 3. Failure to Warn

Bauer asserts that it is also entitled to summary judgment on Levi's failure to warn claims because there

is no competent evidence to establish that the "head protection unit" posed a risk of spinal injury, the risk of spinal injury in playing hockey is an open and obvious danger, there were adequate warnings, and Levi's failure to read the warnings that were provided establishes a lack of proximate cause between use of the helmet-mask combination and his injuries.<sup>16</sup> O.R.C. § 2307.76 states in pertinent part:

(A) Subject to divisions (B) and (C) of this section, a product is defective due to inadequate warning or instruction if either of the following applies:

(1) It is defective due to inadequate warning or instruction at the time of marketing if, when it left the control of the manufacturer, both of the following applied:

(a) The manufacturer knew or, in the exercise of reasonable care, should have known about a risk that is associated with the product and that allegedly caused harm for which the claimant seeks to recover compensatory damages;

(b) The manufacture failed to provide the warning or instruction that a manufacturer exercising reasonable care would have provided concerning that risk, in light of the likelihood that the product would cause the harm of the type for which the claimant seeks to recover

compensatory damages and in light of the likely seriousness of that harm.

(B) A product is not defective due to lack of warning or instruction or inadequate warning or instruction as a result of a failure to warn or instruct about an open or obvious risk or a risk that is a matter of common knowledge.

"Under Ohio law, a plaintiff asserting a products liability 'claim[] based on failure to provide adequate warnings not only must convince the fact finder that the warning provided is unreasonable, hence inadequate, but he also must establish the existence of proximate cause between the [product] and the fact of the plaintiff's injury.'" *Hisrich v. Volvo Cars of N. Am., Inc.*, 226 F.3d 445, 450-51 (6th Cir. 2000) (quoting *Seley v. G.D. Searle & Co.*, 67 Ohio St. 2d 192, 423 N.E.2d 831, 838 (Ohio 1981)). That is to say that a plaintiff must establish a manufacturer's duty to warn, that such duty was breached and that such breach was the proximate cause of the plaintiff's injury. *Brown v. McDonald's Corp.*, 101 Ohio App. 3d 294, 655 N.E.2d 440, 443 (Ohio Ct. App. 9th Dist. 1995). The standard imposed is the same whether such a claim sounds in negligence or strict liability. *Crislip v. TCH Liquidating Co.*, 52 Ohio St. 3d 251, 556 N.E.2d 1177, 1181-83 (Ohio 1990).<sup>17</sup>

"In analyzing the proximate cause issue as it relates to failure-to-warn cases, the Ohio Supreme Court 'divided proximate causation ... into two sub-issues: (1) whether lack of adequate warnings contributed to the plaintiff's [use of the product], and (2) whether [use of the product] constituted a proximate cause of the

plaintiff's injury.'" *Hisrich*, 226 F.3d at 451 (quoting *Seley*, 423 N.E.2d at 838. Moreover, in *Seley*, the Ohio Supreme Court stated that:

[there is] a presumption that an adequate warning, if given, will be read and heeded. In such a situation, the presumption established works to the benefit of the manufacturer. However, where no warning is given, or where an inadequate warning is given, a rebuttable presumption arises, beneficial to the plaintiff, that the failure to adequately warn was the proximate cause of the plaintiff's [use of the product]. This presumption, absent the production of rebutting evidence by the defendant, is sufficient to satisfy the first branch of the plaintiff's proximate cause burden.

*Seley*, 423 N.E.2d at 838) (citations omitted).

In *Seley*, the Ohio Supreme Court also made clear:

[A] fact finder may find a warning to be unreasonable, hence inadequate, in its factual content, its expression of the facts, or the method or form in which it is conveyed. The adequacy of such warnings is measured not only by what is stated, but also by the manner in which it is stated. A reasonable warning not only conveys a fair indication of the nature of the dangers involved, but also warns with the degree of intensity demanded by the nature of the risk. A warning may be found to be unreasonable in that it was unduly delayed, reluctant in tone or lacking in a sense of urgency.

*Id.* at 837 (citations omitted). See also *Hisrich*, 226 F.3d at 453.

Even assuming *arguendo* that the warnings in this case, including that on the back of the helmet, were inadequate, the presumption of proximate cause is rebutted, and a claim of a failure to warn fails where the evidence directly establishes that a plaintiff did not read the warnings. *Hisrich*, 226 F.3d at 451 (citing *Phan v. Presrite Corp.*, 100 Ohio App. 3d 195, 653 N.E.2d 708, 711 (Ohio Ct. App. 8th Dist. 1994)). Levi's deposition testimony provides direct evidence he did not read any of the warnings. (Doc. No. 40, L. Mohny Dep., Vol. I, pp. 60-61, 129).<sup>18</sup> In fact, Levi testified:

Q. All right. We talked about this earlier, but I guess I'd like to read this into the record now. There is a warning that is affixed to the back of the helmet, is there not?

A. Now I know that, yeah.

Q. Okay. You told us that you never read that before; right?

A. Before I got hurt, no.

Q. But it's there on the helmet; true?

A. Yeah.

Q. And it was able for you to - - strike that. It was in plain view for you to read?

A. Yeah, it is.



*Id.* at 88-89 (emphasis added).

Levi also testified that he would not have read "the instructions or the warnings for the face mask before" putting it onto the helmet. *Id.* at 146. In fact, he further testified:

Q. Do you have any independent recollection now of your having attached cages or face masks to helmets yourself?

A. Sometimes I did, yes.

Q. How did you know how to do that?

A. Just common sense.

Q. So you didn't look at or review any instructions before you did something like that?

A. No. I never read no instructions.

Q. You didn't think it was necessary to read any instructions before you did something like that?

A. They had a little diagram. That was it.

Q. You don't remember whether you read any kind of warnings or other information that might have come with any of the cages that you had acquired over the years to put on your helmets?

A. No.

Q. You don't remember?

A. (Witness indicates negatively.) I know I didn't read any of the warnings or any of that stuff.

Q. Why are you so sure of that?

A. Because it was - - the warning was on the back of the helmet, and I did not have to look on the back of the helmet.

Q. How many times do you think you took that helmet off and put that helmet on during the time that you had it and before you got hurt.

A. Hundreds of times.

Q. So hundreds of times you took that helmet off and put that helmet on, and you never looked at the back of it or read what was on it?

A. No.

Q. You certainly had the opportunity to do so; right, though?

A. Yeah.

Q. Literally hundreds of times?

A. The opportunity was there, yes.

The testimony does more than suggest he did not read any of the warnings. It unequivocally establishes that he did not.

Levi has now submitted an affidavit wherein he asserts that he simply does not recall whether he did or did not read the warnings. (Doc. No. 261, Ex. K, Levi Mohny Aff. PP 5, 7) and directs the Court to *McConnell v. Cosco, Inc.*, 238 F. Supp.2d 970 (S.D. Ohio 2003) and *Falkner v. Para-Chem*, No. 21288, 2003 Ohio 3155, 2003 Ohio App. LEXIS 2819 (Ohio Ct. App. 9th Dist. June 18, 2003). The Court is mindful, however, that "a party cannot create a genuine issue of material fact by filing an affidavit, after a motion for summary judgment has been made, that essentially contradicts his earlier deposition testimony." *Penny v. United Parcel Serv.*, 128 F.3d 408, 415 (6th Cir. 1997). See also *Reid v. Sears, Roebuck & Co.*, 790 F.2d 453, 460 (6th Cir. 1986).

In *McConnell*, a child suffered severe brain damage when his neck caught on a highchair's tray due to his caregiver's failure to strap him into the chair. The infant and his mother filed suit against the highchair manufacturer and the store in which the highchair was purchased alleging several claims including failure to adequately warn. While it did not have an instruction manual, the highchair contained warnings on the back and under the tray not to leave children unattended, to strap them in and not to rely on the tray to keep children in place. The *McConnell* court denied the defendants' motion for summary judgment due in part to a factual issue regarding the adequacy of the warnings placement. *McConnell*, 238 F. Supp.2d at 977. In *McConnell*, the court stated:

Furthermore, [the caregiver's] testimony supports plaintiffs' alternative position that even if the warnings were adequate in content, they were not adequately displayed on the highchair. If the display of the warnings was inadequate, then defendants cannot claim that [the caregiver's] failure to read the warnings absolves them of liability. Rather, a warning that is inadequate because it is not properly displayed can be the proximate cause of harm even if the user did not read the warning. Were the law otherwise, manufacturers would be free from liability for providing any warning no matter how obscure, but would be encouraged to use obscure warnings so that consumers would still use their product despite its risks.

*Id.* at 979-80 (citations omitted).

Likewise, in *Falkner*, the court found a failure to read an "'inconspicuous' 'Do Not Use Indoors, Because of Flammability' warning" regarding the use of carpet glue failed to rebut the presumption of proximate cause. *Falkner*, No. 21288, 2003 Ohio 3155, 2003 Ohio App. LEXIS 2819, at \*\* 26-27. Moreover, one of the defendant's own employee's conceded that the "warning was 'not necessarily' conspicuous, and could easily be missed." *Id.* at \*\* 19.

Any contention that the warning(s) were inconspicuous or obscure is belied by Levi's own testimony *supra*, that the warning was in plain view. Parenthetically, the label on which the warning is provided is white, and sits against the black helmet. The word "WARNING," which appears in all capital

letters, appears in white type face against a black backdrop encompassed within the white label, and is prominently displayed separate and above the actual warning. The actual warning then appears in black lettering against the white background. Levi's attempt to create a factual issue as to the adequacy of the placement and prominence of the helmet's warning by way of affidavit to obfuscate his earlier deposition testimony that he did not read the warning provided on the helmet is without merit. Thus, Bauer's motion for summary judgment on Levi's failure to warn claim is granted.

### 3. Mary and Timothy Monheys' Derivative Claims Are Barred

Bauer argues that they are entitled to summary judgment on the claims of Timothy and Mary Mohney, Levi's parents, for medical expenses and loss of services since they are derivative of the primary claims of Levi. Defendant is entitled to summary judgment on Levi's claims. If Bauer is not liable to Levi, then Timothy and Mary Mohney's claims cannot survive. See *Grindell v. Huber*, 28 Ohio St. 2d 71, 275 N.E.2d 614, 616-17 (Ohio 1971); *Looman v. Bell-Herron Middle Sch.*, 129 Ohio App. 3d 39, 716 N.E.2d 1197, 1199 (Ohio Ct. App. 7th Dist. 1998). Thus, Defendant is entitled to summary judgment on Timothy and Mary Mohnes' claims for medical expenses and loss of services.

### C. Plaintiffs' Motion for Partial Summary Judgment

#### 1. Product Defects

Plaintiffs move for summary judgment on their products liability claims, arguing that there exists no genuine issue of material fact regarding whether the



helmet-mask combination was defectively designed and that the Defendants failed to provide adequate warnings on their products. The Court has granted Defendant's motion for summary judgment on all of Levi's product liability claims, and his parents claims for medical expenses and loss of services. Thus, Plaintiffs' motion for partial summary judgment on their product liability claims is denied.

## 2. Permanent Disability/Damages

Plaintiffs also move for summary judgment on the issue of permanent disability/damages, asserting that there is no genuine issue of material fact that Levi's is a complete quadriplegic and completely disabled from any gainful employment. Plaintiffs' claims have been disposed of based on Defendant's and motion for summary judgment. Accordingly, the Mohneys' motion for partial summary judgment on the issue of permanent disability/damages is denied.<sup>19</sup>

## 4. PLAINTIFFS' MOTION TO COMPEL SATISFACTION OF EXPERT COSTS AND SUPPLEMENTAL MOTION FOR THE SATISFACTION OF EXPERT COSTS.

Plaintiffs move the Court to compel Defendant to satisfy expert fees and costs related to the production of documents from the Robson-Lapina computer system, the appearance and testimony of Mr. Johanson, Mr. Lacek and Mr. Robson at the *Daubert* hearing; and the fees and costs of Dr. Collins for his appearance and testimony at the *Daubert* hearing.<sup>20</sup> Plaintiffs have attached invoices thereto, which the Court has carefully reviewed. The production of materials from the

Robson-Lapina computer system was in compliance with a duly served subpoena.

Plaintiffs seek a total of \$ 35,404.19 on behalf of Robson-Lapina as relates to Mr. Johanson, Mr. Lacek and Mr. Robson wherein they seek \$ 30,387.50 for 110.5 hours of their time at an hourly rate of \$ 275.00, along with \$ 2,674.99 in expenses; \$ 1,900.00 for retrieving information from the Robson-Lapina computer system; and \$ 441.70 for company expenses including \$ 179.50 in Federal Express charges, \$ 235.20 in photocopying and \$ 27.00 in notary fees.

Plaintiffs' also seek \$ 24,771.10 for Dr. Collins. This amount includes \$ 9,467.70 in relation to *Daubert* hearing, post *Daubert* hearing review of one of defendant's expert witnesses and discussion in preparation for later oral argument before this Court, along with \$ 15,303.40 (simply denoted as carried over from a pervious invoice which on its face provides insufficient information for the Court to consider).

*Rule 26(b)(4)(C)* states:

Unless manifest injustice would result, (i) the court shall require that the party seeking discovery pay the expert a reasonable fee for time spent in responding to discovery pay the expert a reasonable fee for time spent in responding to discovery under this subdivision; and (ii) with respect to discovery obtained under subdivision (b)(4)(B) of this rule the court shall require the party seeking discovery to pay the other party a fair portion of the fees and expenses reasonably incurred by the latter party in obtaining facts and opinions from the expert.

Before proceeding further, in regard to the production of documents from the Robson-Lapina computer system, Bauer sent Robson-Lapina a letter dated December 19, 2002, stating:

You have stated that you will produce a "back up" tape that existed on or about September 4, 2002, when your firm changed its computer system. We would like to arrange this production to take place on or by December 29, 2002, as ordered by Judge Katz. We would like to send defendants' information technology consultant to participate in the process, in conjunction with Robson Lapina's consultant if you choose to have one present.

...

We submit that Robson Lapina cannot refuse to fully respond to the subpoena, as you have proposed you will. As I stated, defendants will bear the costs of this effort and conduct the search in a confidential manner without reviewing materials concerning other Robson Lapina business. Once again, the information technology consultants could jointly conduct the search, and download only materials concerning Mr. Johanson's and [Dr.] Collins' work in this case.

(Doc. No. 324, Ex. A).

On December 26, 2002, Mr. Robson responded by way of letter confirming defendants willingness to pay for such costs. (Doc. No. 324, Ex. B). While the December

19 letter cannot be construed as an offer to pay professional fees of Mr. Johanson, Mr. Lacek or Mr. Robson's for their attendance at the *Daubert* hearing, Bauer's represented that it would pay the cost of technology persons used to complete the document retrieval.

Bauer concedes that the information obtained as a result of the subpoena were the same as those requested during the course of discovery. While neither Mr. Robson nor Mr. Lacek have been so designated, Mr. Johanson has been designated as one of Plaintiffs' experts. Based on a detailed review of the attached invoices, the Court finds that Mr. Johanson spent 3.25 hours in activities related to reviewing the documents from the Robson-Lapina computer system that were ultimately produced in this very complex case. See *M.T. McBrien, Inc. v. Liebert Corp.*, 173 F.R.D. 491, 493 (N.D. Ill. 1997) (explaining that compelling circumstances such as the complexity of a case that includes voluminous material can justify payment of an expert's preparation time under *Rule 26(b)(4)(C)*). Bauer made use of these materials not only at the *Daubert* hearing, but i in filings before the hearing as part of replies in support of its *Daubert* and summary judgment motions. Accordingly, Bauer must compensate Robson-Lapina for Mr. Johanson's time in the amount of \$ 893.75.

Plaintiffs, however, cannot rely on *Rule 26(b)(4)(C)* to compel satisfaction of the costs and fees for Mr. Johanson, Mr. Lacek, Mr. Robson or Dr. Collins testimony at the *Daubert* hearing. A *Daubert* hearing is an evidentiary hearing not encompassed within discovery proceedings. While Mr. Lacek and Mr. Robson are employed by Robson-Lapina, Plaintiffs'

retained expert firm, these individuals are not Plaintiffs' experts in this case. Further, as Bauer is entitled to summary judgment on all claims, Plaintiffs cannot base any claim for recovery of costs and/or fees to the extent otherwise permitted as a prevailing party. As a consequence, Plaintiffs' motion to compel satisfaction of expert costs is granted to the extent that Bauer is ordered to pay Robson-Lapina a total of \$ 2,793.75 including \$ 1,900.00 for the cost of document retrieval, and \$ 893.75 for Mr. Johnason's time in reviewing those documents. Plaintiffs' supplemental motion for the satisfaction of expert costs is denied in its entirety.

### CONCLUSION

The rulings contained in this Memorandum Opinion dispose of Plaintiffs case before this Court. As noted in an earlier Memorandum Opinion of this Court, this case presents a terrible injury to a young man, significantly and adversely impacting his quality of life. No one connected with this case has ever contested the tragic impact of the injuries cause by the unfortunate accident in which Levi was involved. That impact has been directly felt by Levi and his entire family. Harsh as the result of this Court's conclusions appear to be, courts must always be driven and controlled by the Rule of Law and not permit "hard facts to make bad law."

For the reasons stated above, Defendant's motion to strike affidavits filed in support of Plaintiffs' opposition to Defendant's motions for summary judgment (Doc. No. 267) is granted in part and denied in part. Plaintiffs' motion to determine the sufficiency Defendants' Objections and Admissions (Doc. No. 275) is granted in part and denied in part. Defendants' motion to exclude



Plaintiffs' expert testimony (Doc. Nos. 219 & 236) is granted in part and denied in part. Plaintiffs' motion to exclude Defendants' expert testimony (Doc. No. 224) is denied as moot. Defendant's motion for summary judgment (Doc. Nos. 219 & 234) is granted. Plaintiffs' motion for partial summary judgment (Doc. No. 227) is denied. Plaintiffs' motion to compel satisfaction of expert costs (Doc. No. 318) is granted in part and denied in part. Plaintiffs' supplemental motion for the satisfaction of expert costs (Doc. No. 326) will be denied. Plaintiffs' motion for order for oral argument for purposes of clarification of issue prior to mediation conference (Doc. No. 352) is denied as moot. Plaintiffs' motion for oral argument (Doc. No. 357) is denied. Plaintiffs' motion for sanctions (Doc. No. 265) is denied as moot.

IT IS SO ORDERED.

1/23/04

*s/ David A. Katz*

U. S. DISTRICT JUDGE

#### Footnotes

n1 Since Bauer's motion reference and incorporate those of Karhu prior to its settlement with Plaintiffs, the Court includes them in its consideration and disposition of the motions ruled on herein.

n2 Indeed as Plaintiffs point out, the requirement of a formal written report:

Applies only to those experts who are retained or specially employed to provide such testimony

in the case or whose duties as an employee of a party regularly involve the giving of such testimony. A treating physician, for example, can be deposed or called to testify at trial without any requirement of a written report.

*Fed. R. Civ. P. 26* advisory committee's note (1993).

n3 In Plaintiffs' reply to Defendant's response of October 3, 2003 (Doc. No. 364), they do not even argue that Paragraph 9 is premised on his role as one of Levi's treating physicians seeking to admit Paragraph 10, and those portions of Paragraph 11 that are "unrelated" to Dr. Ramnath's review of the tape.

n4 Some of Plaintiffs' Requests for Admissions also seek production of documents. *Rule 36(a)* does not contemplate such production.

n5 Initially, Plaintiffs also moved to have these requests deemed admitted with respect to Karhu for filing an untimely response. Karhu's response denied that it had filed an untimely response, and also contained a motion seeking leaving to answer requests for admissions out of time pursuant to *Rule 36(a)* (Doc. No. 298). During the *Daubert* hearing, however, Plaintiffs' counsel, Mr. Jug, represented to the Court that timing was not a true concern because Bauer responses, which are essentially mirror images of Karhu's, were timely filed.

n6 Mr. Johanson measured the Shore A hardness of the helmet's liner and opines that it had experienced "a significant degradation of impact attenuation capability" due to a change from 25-45, further leading

to Levi's injuries. (Doc. No. 224, Ex. G, p. 7, 10). In contrast to the incompatibility of the mask and helmet, the Court finds that Mr. Johanson's testimony on this alleged defect must be excluded. He acknowledges that he cannot quantify when it moves from safe to unsafe in this regard. (Doc. No. 249, Johanson Dep., Vol. I, p. 189-90). Thus, Mr. Johanson's testimony regarding the change in Shore A hardness of the helmet lining is excluded.

He also asserts that the helmet's chin strap was defective. Mr. Johanson's report and his testimony provided during the *Daubert* hearing demonstrates that the chin strap is not central to Plaintiffs' theory of product defect, the asymmetric fit of the helmet and mask, and its role in causing Levi's injury. Though noting that the helmet's single strap system is insufficient and contributed to Levi's injuries (Doc. No. 224, Ex. G, p. 7), the findings section of Mr. Johanson's report does not identify the chin strap as a cause of Levi's injuries. (Doc. No. 224, Ex. G, pp. 9-10).

Mr. Johanson has also provided an opinion that the warnings on the mask and helmet were insufficient to warn Levi of the incompatibility of the two due to the asymmetric fit. The Court need not consider the admissibility of any testimony Mr. Johanson might offer as to the adequacy of any warnings/instructions provided, and thus will not address Defendant's motion for summary judgment on the failure to warn claim on this basis. As explained below, Bauer is entitled to summary judgment on Levi's failure to warn claim because Levi has directly and unequivocally testified that he never read any of the warnings on the helmet (or mask).

n7 During the *Daubert* hearing, Mr. Johanson testified that he could not specify the exact moment during the incident that the screw-nut combinations instantaneously dislodged and the right-hand side j-clip released. (Doc. No. 314, *Daubert* hearing, Vol. II., pp. 585-87). Bauer argues that this makes his opinion on this matter inadmissible. The Court disagrees. Mr. Johanson also testified that in all probability this instantaneous release occurred at the beginning of the 40 milliseconds Dr. Collins has estimated as comprising the entire incident. (Doc. No. 314, *Daubert* hearing, Vol. II, p. 622).

n8 Mr. Johanson proffered a videotape of this exercise to the Court. (DH-25).

n9 The Court notes that Plaintiffs have not listed Mr. Lacek as an expert witness. Paragraphs 8 and 10 of Mr. Lacek's affidavit provide testimony regarding the methodology Dr. Collins employed in completing his two supplemental reports in addition to his February 20, 2002 report. The supplemental reports were completed after Dr. Collins' termination from Robson-Lapina. Testimony from Mr. Lacek concerning the supplemental reports falls outside the scope of any internal peer review process to which Robson-Lapina subjects its employees' reports, and represents expert testimony from an unlisted/unidentified expert witness. Likewise, Mr. Lacek's review of Defendants' expert reports in Paragraph 9 also provides expert testimony from an unlisted/unidentified expert witness and is stricken in its entirety. Therefore, Paragraphs 8 and 10 are stricken to the extent that they address Dr. Collins' supplemental reports, and Paragraph 9 is stricken in its entirety.

n10 Dr. Collins analysis also assumes the mass of Levi's head neck complex was 7.22 kg and the moment of inertia was 0.126 kg-ms<sup>2</sup>.

n11 In *Demaree*, the court excluded an expert's testimony for several reasons including *inter alia* that no other engineer shared the expert's opinion, there was no literature supporting his opinion, and his failure to perform any form of "virtual" testing including computer modeling or finite element analysis or "perform any mathematical calculations." *Id. at 963-64*. While Dr. Collins has performed mathematical calculations, the Court has found these calculations and thus the method employed to be suspect and unreliable.

n12 The Court need not address Defendant's arguments that they are entitled to summary judgment under the physical facts rule and/or implied assumption of risk.

n13 In addition to a statutory cause of action based on strict liability, a plaintiff may assert a common law negligent design claim as well. *Carrel v. Allied Prods. Corp.*, 78 Ohio St. 3d 284, 1997 Ohio 12, 677 N.E.2d 795, 798-800 (Ohio 1997).

n14 These instructions also indicate that the mask was accompanied by screws and clips for affixing the mask to the front of the helmet.

n15 As discussed in greater detail below, Bauer is entitled to summary judgment on Levi's failure to warn claim, on the separate basis of lack of proximate cause.

n16 Thomas Blaine Hoshizaki, a corporate designee of Karhu, has testified that it was common knowledge that players would combine masks and helmets from



different manufacturers together. (Doc. No. 226, Hoshizaki Dep., p. 108). Mr. Laprier testified that such mixing and matching was a common occurrence. (Doc. No. 263, Laprier Dep., p. 126). Other evidence exists that Defendant knew that players mix and match helmets and face masks from different manufacturers that were not compatible. (Doc. No. 261, Ex. A & B; Doc. No. 232, Sabelli Dep., p. 35).

n17 One important distinction, however, is that the defense of comparative negligence is available for a failure to warn claim premised on negligence. *Id. at 1183*.

n18 The actual warning on the back of the helmet reads:

Ice Hockey is a collision sport which is dangerous. This helmet affords no protection from neck or spinal injury. Severe head, brain, or spinal injuries including paralysis or death may occur despite using this helmet. Do not use this helmet if the shell is cracked, or if the interior padding is deteriorated. Read instructions carefully before wearing.

Warnings also appeared "on a hang tag attached to the helmet, and on the box containing the helmet." *Mohney, 77 F. Supp.2d at 878*.

n19 The Court also notes that in a Memorandum Opinion and Order (Doc. No. 239), dated December 3, 2002, subsequently clarified in a later Memorandum Opinion and Order (Doc. No. 258), dated December 18, 2002, the Court had bifurcated the trial as between liability and damages. The issue of damages would have

been presented to the jury only if Plaintiffs had prevailed on the issue of liability at trial.

n20 Plaintiffs raised the issue of the satisfaction of expert costs during the *Daubert* hearing. (Doc. No. 313, *Daubert* Hearing, Vol. I, pp. 253-54) on which the Court reserved ruling.

(any footnotes trail end of each document)

No. 04-3227

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT

LEVI MOHNEY, MARY MOHNEY and TIMOTHY  
MOHNEY,  
Plaintiffs-Appellees

v.

USA HOCKEY, INC. a/k/a AMATEUR HOCKEY  
ASSOCIATION OF THE UNITED STATES, INC.;  
TOLEDO CHEROKEES JR. CLUB, INC. d/b/a  
TOLEDO CHEROKEES; CENTRAL STATES  
HOCKEY LEAGUE; NORTH AMERICAN JUNIOR  
HOCKEY; UNKNOWN REFEREES,  
PERSONALLY AND AS AGENTS AND  
EMPLOYEES OF USA HOCKEY, TOLEDO  
CHEROKEES, NORTH AMERICAN JUNIOR  
HOCKEY LEAGUE AND CENTRAL STATES  
HOCKEY LEAGUE; COOPER OF CANADA  
LIMITED n/k/a BAUER, INC.; JOFA FACE MASKS  
d/b/a KARHU USA, INC.; and JASON RENEGER,  
Defendants-Appellants

Filed 10/ 21/ 2005

BEFORE: COLE and SUTTON, Circuit Judges; and  
ZATKOFF,\* District Judge.

The court having received a petition for rehearing en  
banc, and the petition having been circulated not only  
to the original panel members but also to all other

active judges of this court, and no judge of this court having requested a vote on the suggestion for rehearing en banc, the petition for rehearing has been referred to the original panel.

The panel has further reviewed the petition for rehearing and concludes that the issues raised in the petition were fully considered upon the original submission and decision of the case. Accordingly, the petition is denied.

ENTERED BY ORDER OF THE COURT

Leonard Green, Clerk

\*Hon. Lawrence P. Zatkoff, Senior United States District Judge for the Eastern District of Michigan, sitting by designation.

MOHNEY V. U.S.A. HOCKEY, INC., ET AL.

Prepared by: NORMAN W. JOHANSON  
Mechanical. Engineer.

PRELIMINARY REPORT

February 20, 2002

1. INTRODUCTION

Levi Mohny was injured while attending a try-out camp for the Toledo Cherokees. Mr. Mohny was injured following a collision with another player which resulted in Mr. Mohny hitting face-first into the barriers around the rink.

This investigation was conducted to determine if the Cooper helmet and/or JOFA face mask was defective in a manner causing Mohny's injury.

2. INFORMATION AVAILABLE

1. Deposition transcript of Levi Mohny.
2. Portions of Transcript of Ronald Tallman.
3. Affidavit of Daniel A. Funk, M. D., June 25, 1998.
4. Photocopies of seven photos of helmet.
5. Videotape copy, ice hockey practice on the day of Mohny's injury.
6. Photocopies of twelve images from videotape
7. HECC Compatibility list.
8. ASTM ice hockey helmet standard F 1045
9. Discovery responses from JOFA
10. Plaintiffs Designation of Experts.
11. My inspection of the Cooper helmet and Jofa face mask.



12. Various articles related to hockey equipment and safety.

13. Similar helmet and similar mask as provided by Cooper and Jofa.

### 3. BACKGROUND INFORMATION

General Behavioral Expectancies Data Table for Designers'

Behavior Pattern

Built-in habits and/or natural behaviors and associations:

12. People generally regard products as being safe

Lack of Knowledge and/or experience

1. Across the broad consumer population there is a lack of Knowledge about, and experience with the technological features of many products.

Safety Implications

Although the assumption of "safe" should not be made, the fact that it is tends to preclude users from thinking safety, thus reducing the likelihood that they will anticipate possible hazards and make the necessary check.

Since consumers generally are not prepared either to anticipate or to analyze conditions or the possible results of incompatibilities among physical elements and phenomena, they inadvertently initiate events that

lead to improper and hazardous interactions.

### Design Considerations

Try to design the product so that it cannot be used improperly. If that is impractical provide guards or other means to cause the user to think about the hazards. Finally if neither of the above is practical, We steps to warn the user by means of lapels or instructions, appropriately coded to imply caution or warning

Analyze the potentially hazardous interactions between the naive user and the various product elements to make sure that every means possible of precluding misuse has been designed into We product, that misuse has been waned against, and/or that the potential severity of the hazard has been minimized.

### 4. MOHNEY'S INJURY

The Cooper helmet worn by Mohny had been purchased only 6 to 8 months prior to the incident. The Jofa face mask was installed when he purchased the helmet. Mohny states that he had never removed. The mask from the helmet, and had not modified it in any manner. Mohny has stated that his protection equipment [Cooper helmet and Jofa face mask] was in good condition when he started to play on the day of his injury. The helmet was adjusted to fit his head, all fasteners and clips were in place, and his straps were fastened. He remembers seeing the white boards, just prior to striking them. Referee Tallman reports the Mohny's head was up at the time of impact and that Mohny struck the boards with his face mask or

forehead.

## 5. EXAMINATION OF MOHNEY'S COOPER SK 2000 L HELMET

The helmet is marked Cooper on the front and both sides, and identified as a model SK 2000 L on the top front. It has HECC and Cooper warning labels on the rear helmet body segment.

The helmet consists of: front and rear plastic molded members, both black in color. The front member is somewhat larger in width, and is mounted over and bolt-fastened to, the rear member. There are two bolt fastening points on either side of the helmet. The bolts pass through holes in the side of the forward-most helmet segment and slots in the rear-most segment, then are fastened into plate-mounted nuts. The two nut-plates are mounted over molded-in "rails on the inside surface of the rear-most segment. The front half of this helmet is positioned approximately 1/2 inch further forward on the right side than it is on the left side.

The helmet has two bolt-fastening holes in the front, for attachment of a face mask. Retainer nuts, which are inside the front helmet member, accept threaded fasteners [bolts] which pass through individual face mask retainer clips.

The exterior surface of the helmet has scratches and scrape marks consistent with ice hockey usage. There are no visible breaks, cracks, or signs of outer-shell deterioration.

Half inch thick resilient foam contoured pads are attached to each of the helmet members. These resilient pads are adhesively fastened to thin cardboard-like strips which are attached to the helmet shell. At the time of my inspection the front pad was detached from the helmet, and had been trimmed along the forward-most edge. Such that it conforms to the front edge of the helmet. The rear pad is partially detached. I measured the Shore "A" hardness of the foam pads as 45.

The foam pad attached to the front member has holes at each side to allow access to face mask retainer nuts.

There is a formed metal clip attached on the left side of the helmet, fastened in place by two screws, one of which passes through a chinstrap retaining member, a side piece, and the "side burn" part of the helmet front member. There is no clip at the corresponding location or, the right side. The two ends of woven chin straps are attached to the plastic strap retaining member.

Two other woven straps attach are fastened to bolts on the rearmost helmet member.

## 6. EXAMINATION OF MOHNEY'S JOFA 271 SR FACE MASK

The chin guard portion of the face mask is marked "Made by JOFA Sweden". It has a label identifying it as a model 271 SR, and HECC & Swedish Hockey Association labels.

The face mask has a formed grid pattern of 1/8 inch diameter steel wires. A single wire forms the outline of

the mask with its two ends butt-welded together. Five horizontally oriented wires are welded at upper and lower ends to the outline wire. Six vertically oriented wires are welded at tight and left ends to the outline wire, and to each intersecting horizontally oriented wire. The chin guard is rivet-fastened to a plastic molded member at the bottom of the mask.

The white coating on the face mask wires is damaged at multiple locations. Greatest damage is on vertical wires at the lower right side and at the intersection of the second horizontal and fourth vertical wire from the right. A piece of tape is wrapped around the third vertical wire from the right.

## 7. MASK-TO-HELMET ATTACHMENT

The JOFA face mask is attached to the Cooper helmet with two bolts which are threaded into retaining nuts inside the front center of the helmet body. The bolts are spaced 1.4" apart and each pass through 0.435" wide metal clips which attach to the topmost horizontal face mask wire. The space between the two clips is approximately 1" The distance from outer edge to outer edge of the two clips is about 1.8".

The Jofa face mask grid has six vertical wires [including the two outer frame wires]. When centered relative to the Cooper helmet, the mask's middle two 0.125" diameter vertical wires, which are spaced 1.5" apart, cannot be mounted.

Either the mask's wire spacing or the helmet's bolt hole spacing would have to be reduced to less than 1" or increased to more than 1.8" in order to have the Jofa



mask attached symmetrically on the Cooper helmet. The Jofa face mask can only be attached by shifting the mask to one side or the other.

The face mask on Mohnney's helmet is shifted toward Mohnney's right side. The upper horizontal wire on the right side of the Jofa mask does not fully engage in the helmet's right side clip. The right side of the mask also projects out beyond the side of the helmet by approximately one inch.

I found this to also be true when I attached the similar Jofa face mask to the similar Cooper helmet. They are not compatible and do not align properly,

## 8. ANALYSIS

Helmets and face masks are two components of an ice hockey "head protection" system. The helmet is intended to protect the head of the wearer from impact to the top, sides and rear, and has a liner intended to provide impact attenuation. The face mask is curved and is intended to protect the front of the facial area in an arc of about 120 degrees.

### Helmet Design

### Mask Attachment

Ice hockey helmets are standardized, in that they must be used with a protective face mask. Helmets made by all manufacturers are double bolt-fastened at the front of the helmet and accommodate face mask pivoting about the bolt fasteners to facilitate putting on and removing the helmet. It is foreseeable to a helmet

manufacturer that a face mask made by a different company may be used with their product. The spacing of Mohney's Cooper helmet front mounting holes prevented the Jofa face mask from being mounted centrally. The face mask could only be attached when shifted toward one side of the helmet.

The Cooper helmet is designed with "J"-shaped clips on each side of the helmet into which the upper surfaces of the outermost ends of the face mask enter when the mask is pivoted into a "closed" position for use. The clips of Mohney's helmet were fastened with bolts which threaded into special nuts on the inside of the helmet. The J-shaped clip on the right side of Mohney's helmet had been in place when he started playing, and was missing after his injury. Threaded fasteners are known to loosen when subjected to movement such as is common in hockey play, and can release when subjected to impact loading as in Mohney's collision with the ice rink boards. Thread-locking bolts and nuts have long been known, are inexpensive, and would have retained the helmet's J-clip.

#### Helmet Liner

The American Society for Testing and Materials performance specification for Ice Hockey Helmets, materials, section 4.1.2, says: "Materials coming into contact with the wearers head..... shall not undergo significant loss of strength, flexibility or other physical change as a result of contact with perspiration, oil, or grease from the wearer's hair."

The liner material in the Cooper helmet worn by Mohney has undergone a physical change, The shore

"A" hardness has changed from approximately 25 to 45. This represents a significant degradation of impact attenuation capability.

### Helmet retention system

Cooper knew, or should have known that ice hockey head injuries similar to that incurred by Mohnney are often associated with forward head flexion, and that this issue had been investigated in regard to other contact sports. A football helmet equipped with a four-point strap with chin cushion was found to substantially reduce inadvertent head flexion. The Cooper helmet is equipped with a single strap, not a four-point strap retention system. The Cooper single strap system attaches to plastic half-rings mounted below the wearer's ears. The Cooper single strap system will not reduce inadvertent head flexion as compared with a four-point strap system and is a design defect which contributed to Mohnney's injury.

### Face Mask Design

Ice hockey face masks are also standardized for use with hockey helmets. Face masks by all manufacturers are designed for double bolt-fastening at the front of a hockey helmet, and are pivotable upward to facilitate putting on and removing the helmet. It is foreseeable to a face mask manufacturer that a helmet made by a different company may be used with their product. The spacing of the central vertical wires of the Jofa helmet prevented it from being mounted centrally on the helmet. The face mask could only be attached when shifted toward one side of the helmet.

The outermost ends of the face mask are configured to enter and be retained in clips on each side of a helmet when the mask is pivoted into a closed position for use. When shifted to one side, the other side was not properly retained in that J-clip.

### Mounting Hardware

The bolts and other fastening components used on ice hockey helmets are in most instances the same thread size, and can be used interchangeably on helmets made by different manufacturers. In a similar fashion, a bracket for attaching a face mask to a helmet can be used on masks and helmets made by different manufacturers. Manufacturers of ice hockey helmets and face masks knew, or should have known, that loosening or loss of fasteners during play would seriously compromise the effectiveness of a player's head protection system. Thread locking fasteners or other provisions should have been used to protect against player injury.

### Hockey Player Behavior Patterns & Expectations

Ice hockey helmets and masks are available in many styles, models, sizes, and from different manufacturers. All function in the same manner. Face masks from many different manufacturers will fit onto a given helmet. Similarly, there are many different helmets that can accommodate a specific face mask.

### Product Instructions and Warnings

Manufacturers of ice hockey helmets and face masks know, or should know, that players will sometimes wear

helmets and masks made by different firms. They have a responsibility to design their respective products to function safely with other helmets or masks. If a manufacturer cannot design their product to function safely when used with competitive products they must provide clear, concise and conspicuous warnings of hazard. Statements such as "Certified for use with" is not a warning, only a statement of compatibility. A user may still believe that competitive mating products may be equally suitable.

A warning must include a leading "Signal Word" such as Warning, Danger, or Caution, It must clearly identify the hazard and its seriousness [examples - "This face mask will not prevent serious injury or death if not fully secured in both side brackets and lightly strapped", or "Use with face masks other than \_\_ may be unsafe. Serious injury or death may result from use of unlisted face masks"]. It must state how the user can avoid or protect against the hazard ("This face mask must be centered in respect to the helmet on which it is mounted. Do not use if both ends are not fully retained in the helmets side clips and straps are properly fastened"].

#### Cooper Helmet Instructions

Cooper provided no warnings in its "hang tag" instructions. The instructions do say :For maximum protection, the helmet must be inspected frequently for any visual damage. If helmet shell or liner is chipped, cracked or ripped, it should be replaced immediately." The hang tag also bears the standard statement "This helmet affords no protection from neck or spinal injury. Severe head, brain or spinal injuries, including



paralysis or death may occur despite using this helmet. Read instructions carefully before wearing." Cooper does not state that use of the helmet with other manufacturers face masks is dangerous and may result in injury or death.

#### Jofa Face Mask Instructions

Jofa provided no warnings on its face mask or in instructions Jofa literature identifies specific Jofa helmets as "certified" for use with the face mask, but does not state that use with other helmets is dangerous and may result in injury or death

#### 9. FINDINGS

Within the bounds of reasonable technical certainty, and subject to change if additional information becomes available, it is my opinion that:

1. The Cooper model SK 2000L helmet worn by Mohney at the time of his injury was defectively designed with front mounting holes spaced apart in a manner that required asymmetrical attachment of the Jofa 271 SK mask to the helmet. Because of the asymmetric attachment, one side of the face mask was improperly retained in a helmet "J"-clip, which released when Mohney struck the ice rink boards. This failure of Mohney's head protection system was a cause of his injury.

2. The Cooper model SK 2000L helmet worn by Mohney at the time of his injury was defectively designed with fasteners that released on impact of Mohney's head protection system with the ice rink boards. The right-

side face mask retention clip came off, releasing the face mask on that side. This failure of Mohnney's head protection system was a cause of his injury.

3. The Cooper model SK 2000L helmet worn by Mohnney at the time of his injury was defectively designed with a liner material that significantly degraded in impact attenuation effectiveness. The helmet was in violation of the ASTM P 1045 standard in this regard. Failure to properly attenuate the impact force was a cause of Mohnney's injury.

4. Cooper failed to state in their warnings or instructions that use of the helmet with other manufacturers face masks is dangerous and may result in injury or death. Placing the subject helmet into the stream of commerce without a warning that it was only compatible with certain face masks is a design defect. Had Cooper provided proper warnings and instructions, Mohnney would not have purchased the subject Cooper helmet equipped with the Jofa 271 SR face mask that he wore at the time of his injury.

5. The Jofa 271 SR face mask worn by Mohnney at the time of his injury was defectively designed with the center two vertical wires spaced apart in a manner that required asymmetrical attachment of the face mask to the Cooper SK 2000 L helmet. Because of the asymmetric attachment, one side of the face mask was improperly retained in a helmet "J'-Clip, which released when Mohnney struck the ice rink boards. This failure of Mohnney's head protection system was a cause of his injury.

6. Jofa failed to state in their warnings or instructions

106a

that use of the face mask with other manufacturers helmets is dangerous and may result in injury. Placing the subject face mask into the stream of commerce without a warning that it was only compatible with certain helmets is a design defect. Had Jofa provided proper warnings and instructions, Mohny would not have purchased the subject Cooper helmet equipped with the Jofa 271 SR face mask.

Norman W. Johanson  
Mechanical Engineer

## PRELIMINARY ANALYSIS OF THE LEVI MOHNEY HOCKEY INJURY

Prepared by: Richard Collins, Ph.D.,  
February 20, 2002

ANALYSIS OF THE LEVI MOHNEY HOCKEY  
INJURY ENGINEER'S REPORT  
February 20, 2002

### A. INTRODUCTION

On April 21, 1995 at approximately 11 am, Levi Mohney, aged 17, was playing hockey as a member of the Toledo Cherokees ice hockey team at the Tam O'Shanter Rink in Sylvania, Ohio, when he was hit from behind by another player, Jason Reneger, and thrown forward into the boards. He became immediately quadriplegic.

This investigation was performed to determine if the helmet/face-protector combination that he was wearing at the time of his impact contributed to the severity of his injuries.

### B. INFORMATION AVAILABLE

1. Medical and rehabilitation center records
2. Flower Hospital Discharge Summary by S. Ramnath, M.D., dated 7-9-95
3. Seven color photos of damaged helmet and lace-protector
4. Expert report of James A. Lynch dated May 7, 1997
5. Affidavit of Daniel A Funk, M.D.
6. Extract of deposition transcript of Mohney (one page, unnumbered)

7. Extract of deposition transcript of Tallman (pages 43 and 44 only)
8. Amateur videotape records of the hockey game
9. Selected frames from the videotape
10. Expert report of N.W. Johanson dated Feb. 19, 2002

### C. INJURIES

Mohney's injuries, as documented in the Flower Hospital X-ray and CAT scan records, include:

1. fractured lamina on the left of the anterior portion of C5
2. dislocation of C5 on C6 with the posterior margin of C5 about 8-9 mm anterior to C6. C7 appears to be reasonably aligned with C6
3. vertical fracture through the body of C6
4. fractured transverse foramen at C7 on the left
5. immediate and complete spinal cord injury

### D. MECHANISMS AND ANALYSIS OF SPINAL CORD INJURIES INCURRED IN ICE-HOCKEY

The cervical spine is highly complex with regard to its mechanical and structural properties. It is more susceptible to injury than the thoracolumbar spine (Tegner 2000). Tegner attributes this to the different mechanism by which the cervical spine is most often injured; namely: by a combination of flexion and axial loading. Catastrophic neck injuries associated with sports cluster around the flexion-compression mechanism. However, the flexion-compression injury mechanism is very sensitive to the initial conditions of fixation of the head, its linear and angular motions, and the relative orientations of the head, neck and torso



during impact with a rigid barrier such as the hockey rink boards.

Injuries to the spinal cord are among the most common catastrophic injuries occurring in ice hockey (Tegner). Spinal cord injuries in hockey were very rare prior to 1973 (Bishop et al. 1989) but have increased markedly over the past three decades. According to a Canadian survey by Tator et al. (1984) carried out over the period 1976-1984, and subsequently updated by Tator et al. (2000), the median age of those injured in hockey was 17-18 years, with 53 suffering spinal cord injury ranging from incomplete sensory loss to complete motor and sensory loss. X-ray records indicated that the primary vertebral lesion was a burst fracture or fracture dislocation in the C5 or C5-6 vertebral region, attributed mainly to a "head-first collision with either the boards or with another player, in which the top or crown of the head struck first. Players were often struck from behind without warning, and this is often referred to in the Canadian hockey literature as a "headfirst collision with axial compressive loading of the cervical spine."

Most of what we know about the biomechanical aspects of cervical spine injury comes from two principal sources: a) clinical studies, with accident reconstruction and analysis (including the use of kinematic models such as test mannequins), and b) cadaver or cadaveric material studies.

Bishop et al. (1989) conducted a series of impact simulations in which an anthropometric test dummy was projected in free flight against a rigid barrier similar to the hockey boards. The test dummy was

fitted with a Hybrid III head and neck and instrumented with a 6-axis force and moment transducer at the level of the C1-C2 junction. The trials were cinefilmed at 500 frames/sec.

Analysis of Bishop's cine films showed that once the head came to rest after impact against the boards, the torso still continued moving forward for an additional 20 ms. In this manner, the neck became trapped between the now immobile head and the still forward-moving torso. The neck assumed a position similar to the oft-described "ducking" position characterized by extension in the upper cervical spine and flexion in the lower cervical spine, thus forming an "S"-shaped structure with an inflexion point in the lower spine.

The loads on the cervical spine have been both measured and modeled computationally, as a means of providing load predictions and comparisons with existing cervical spine tolerance data. Estimates of static fracture thresholds in compression can be determined from the dimensions of the various cervical vertebral bodies (Francis 1955) and from the failure stresses of the vertebrae (Sunoda 1962, McElhaney et al. 1993).

Merz et al. (1971) reported loading data for both volunteer and cadaveric decelerations into a rigid barrier. They estimated ligamentous injury above 42 ft-lbs for extension and risk for structural injury above 140 ft-lbs in the cadaver in flexion. They noted, however, that muscular injury may occur below this 140 ft-lbs injury threshold.

Compressive failure loads have been widely reported

for the vertebral column. Maiman et al. (1983) and Myers et al. (1991) have observed that compression-flexion and compression-extension injuries produced in the cadaver require smaller axial loads than pure compressive injuries. Myers et al. reported bilateral facet dislocations at 1720 N (387 lb). Merman et al. noted flexion injuries at approximately 2000 N (450 lb), while compression injuries reported in these studies occurred at 4810 N (1082 lb) and 5970 N (134.3 lb), respectively. These values should be taken as lower bounds for human tolerance levels in compression-flexion and compression-extension injuries in view of the importance of neck musculature in resisting flexion and extension in the lower cervical spine. However, the muscles do not likely influence estimates of cervical compressive load tolerances associated with pure compression injuries, as the neck muscles do not act effectively in such instances.

#### E. ANALYSIS OF MOHNEY'S VERTEBRAL FRACTURES

The cervical spinal fractures sustained by Mohny are consistent with a compressionflexion type loading. Vertebral body C6 was fractured vertically, while C5 was dislocated anteriorly relative to C6 (bilateral facet dislocation), consistent with a compression-flexion loading of the cervical spine, requiring a component of axial loading of the vertebral column of approximately 400 – 450lb. Bishop et al. have indicated, on the basis of axial and flexed trials, that impact velocities of only 1.8 m/s (4 mph) are sufficient to develop compressive loadings in vertebral regions C3-C5 to within 75% of structural failure.

The testimony of both ice-hockey player Mohnney and of Tallman, the referee during the hockey game in which Mohnney was injured, indicate that Mohnney impacted the boards in a face-forward position. The affidavit of Funk, M.D. corroborates this testimony.

Following my comprehensive examination of the videotape of the hockey game and the frames just before, during and after Mohnney's impact with the boards, the following scenario emerges. Mohnney was initially driven into the boards face-first. He raised his left arm to protect himself from the impending collision. At the point of initial impact of the right side of his faceguard with the boards, the right hand side of the face guard dislodged from the helmet. As this happened, the faceguard deformed on this side, inducing a torque on Mohnney's head (sagittal plane) which had the effect of turning his head downward toward his chest. This exposed the top of Mohnney's helmet to the boards which then loaded his flexed spine axially. This resulted in a classic pattern of compression-flexion fractures of the cervical spine at the C5-7 level, with concomitant injury to his spinal cord.

This injury sequence is consistent with impact situations that arise frequently in ice hockey, making it all the more important for the manufacturers of protective headgear to have developed preventative strategies through effectively designed protective equipment, such as well-integrated and fully compatible ice-hockey helmets and face protectors.

The manufacturers of the helmet and of the faceguard (face-protector) were in a position to know separately

and jointly, before commercializing their respective products, that the incompatibility and ineffectiveness of their joined products constituted an inherent danger for the user inasmuch as:

a) the forced offset in mounting the faceguard onto the helmet rendered the latter susceptible to breaking away from the helmet and deflecting at the unsupported side under the forces which routinely prevail when a player is checked unexpectedly from behind, into the boards. This caused a flexion torque to be applied to Mohnney's head, bringing the crown of his helmet into contact with the boards and loading his spine axially, resulting in the observed vertebral fractures. Compression flexion loading has lower threshold limits for spinal fractures than does pure compression loading.

b) the downward ripping off of the thin cardboard foam retainer of the helmet, where it was attached to the helmet "sideburns", had the dangerous effect of eliminating the safety gap between the anterior portion of the helmet foam material and the helmet shell. This failure of the cardboard webbing led to increased axial loading of Mohnney's spine, resulting in his state of immediate quadraplegia. Had the crushable foam layer been thicker and of a material providing better absorption of the impact energy, and had the air-gap between that crushable material and the helmet shell not been eliminated by the failure of the cardboard web attachments to the helmet shell, quadraplegia could have been avoided during this incident.

Their combined helmet- faceguard product was defective in design because the foreseeable risks



associated with both the inadequate protective foam system of the helmet and the offset design of the faceguard on the helmet at the time it left the control of its respective manufacturers exceeded any benefits that may have been associated with that design. Indeed, it was both technically and economically feasible to have employed an alternate design which avoided the failure of the helmet liner and the dangerous offset mounting of the face-protector onto the helmet before the products left the control of their respective manufacturers. The helmet/face-protector combination was inherently defective in design and was defective due to inadequate warning or instruction. Indeed, this product was not unavoidably unsafe; the face-protector could readily have been rendered compatible with the helmet onto which it was mounted simply through a mundane re-design of the mounting brackets and fastening clips. The helmet could have been designed to accommodate a liner that would have absorbed or dissipated a greater fraction of the impact energy as an effective means of attenuating significantly the transmission pressure waves emanating from the helmet's contact with the boards of the ice rink. The user of this equipment was not properly warned of the inherent design defect that caused the cardboard retaining the helmet liner to fail, on the one hand, and the face-protector to come undone on the other hand, during a frequently encountered hockey maneuver.

#### F. DESIGNING HAZARDS OUT OF THE PRODUCT

Safety concerns must be of paramount importance in product design. Similar opinions have been expressed

by Shigley et al. (1996) who writes:

"The designer is in a new mode, which places safety on the same level of importance in design considerations as the-function or the ability of the design to perform as intended."

Indeed, there is a broad consensus on this view, as noted in the institutional referenced extracts below:

The American Society for Quality Control has issued guidelines for quality systems for all organizations. These standards are recognized in industry and should have been followed by the helmet and face protector manufacturers on this equipment. In the section entitled "Quality in Specification and Design" it is stated:

8.2.4 In addition to customer needs, the designer should give due consideration to the requirements related to safety, environmental and other regulations, including items in the company's quality policy which may go beyond existing statutory requirements.

8.2.5 The quality aspects of the design should be unambiguous and adequately define characteristics important to quality, such as the acceptance and rejection criteria. Both fitness for purpose and safeguards against misuse should be considered. Product definition may also include reliability, maintainability, and serviceability through a reasonable life expectancy, including benign failure and safe disposability, as appropriate.

The National Safety Council (NSC) published the

Accident Prevention Manual, which provides the following information which should have been followed by the helmet and face protector manufacturers.

The NSC established a design priority that companies should follow and apply to all design and redesign processes:

First Priority: Design for minimum risk. (Eliminate hazards)

Second Priority: Incorporate Safety Devices. (Protective safety design features)

Third Priority: Provide warning devices. (Warn personnel)

Fourth Priority: Develop and implement operating procedures and employee training programs. (Train personnel)

Fifth Priority: Use Personal Protective equipment.

The NSC states that 3rd and 4th priorities rely on level of skill of the user. Thus, they rely on human intervention and interpretation.

The NSC states that the purpose for having Procedures for Design and Equipment Review is:

"To provide operations, engineering, and design personnel with guidelines and methods to foresee, evaluate, and control hazards related to occupational safety and health and the environment when considering new or redesigned equipment and process

systems.

The design stage offers the greatest opportunity to anticipate, analyze, eliminate, or control hazards. "

In view of the high frequency of injuries sustained worldwide in ice hockey, concern has risen for safety standards in many countries in which the sport is practiced, such as in Canada (Canadian Standards Association - CSA); Sweden (Swedish Ice Hockey Association - SIA); the United States (American Society for Testing and Materials - ASTM and the Hockey Equipment Certification Council - HECC). The stated purpose of HECC is

to examine the needs and wishes of the various amateur hockey-governing bodies as- they pertain to hockey equipment and safety. HECC seeks out and selects codes and standards, including test methods and other requirements for certifying playing equipment and facilities used in the sport of ice hockey. In addition, HECC promotes the use of certified products and monitors the effectiveness of its certification programs on the sport of ice hockey. It has the responsibility to promote and sponsor research pertaining to prevention and/or reduction of ice hockey injuries. This is accomplished by studying playing rules, attitudes, playing surfaces, officiating, training, conditioning, and administrations, among others.

The International Standards on Protective Headgear for Ice Hockey Players (DIS 10256) have been reported by Dixon et al. (1993). Headgear requirements are described as follows:

"Helmets should be designed so they do not present a potential hazard to the user or other players

Assembly by the user shall require no machining operation (for example, drilling holes)

components of the fasteners for securing attachments to the helmet shall not reduce the degree of protection afforded to the wearer of the helmet. [emphasis added]"

In the present situation, Mohny was relying for his safety and protection upon a helmet which was ineffective in attenuating force transmission to his spine and a full-face protector which was incompatible with the helmet, inasmuch as it was not possible to attach the face protector symmetrically and firmly to the helmet due to the offset required to mate them without additional machining operations. The helmet manufacturer and fullface protector manufacturer were each responsible for the effective design of their individual products and for the coordination of their respective designs, since it was clear from the outset that such components were intended to be fitted together for use by hockey players to protect them from such injuries which may otherwise occur upon impact with rigid barriers, such as the boards.

The International Standards on Face Protectors and Visors for Ice Hockey Players (DIS 10257) have also been reported by Dixon et al. (1993) and described as follows:

"Today's ice hockey player can select from a range of facial protectors that are composed of polycarbonate or wire and that provide full or partial face protection. In



addition, protectors are designed to meet the particular needs of a player according to age and position being played [emphasis added]" "

Halstead et al. (2000) draw attention to the well known fact that

"hockey is a collision sport. The energy levels that hockey players face upon impacting a variety of obstacles can result in higher levels than the typical American football or lacrosse player faces. This is primarily due to the higher velocity attainable on skates and the 'rigid' structures that can be struck by a player. Hockey is not a 'soft' sport in terms of the hazards encountered. These hazards include the ice, the boards.... The authors believe that the evidence is clear. Hockey headgear performance can be significantly improved without increases in cost or compromises in appearance, weight or wearability..... there is solid evidence that high quality helmets that meet a more demanding standard can make a difference in both short and long term quality of life for those who would wear them."

In the present case, it is clear that the helmet and face protector did not protect Mohny from injury during his being checked from behind into the boards. In addition, the fullface protector and the helmet were incompatible, allowing the face protector to dislodge on one side.

## G. FINDINGS

Within the bounds of reasonable engineering certainty, and subject to change should additional information

become available, it is my professional opinion that:

1. Mohnhey's cervical spine injuries resulted from inadequate protection afforded by his Cooper helmet and JOFA full-face protector system.
2. It was technically and economically feasible for the manufacturers of the helmet and of the faceguard to have provided a reasonable alternative design which would have prevented the injuries sustained by Mohnhey.
3. The manufacturers of the Cooper helmet and of the JOFA full-face protector failed to design a compatible and effective combination of these two elements in order to protect Mohnhey adequately and to prevent his becoming a complete quadriplegic at the age of 17.

Richard Collins, Ph.D.

Mechanical and Biomedical Engineer

## REFERENCES

Accident Prevention Manual For Business and Industry, Engineering and Industry 11th Ed., National Safety Council, 1997.

American Society for Quality Control, ANSIASQC Q94-1987: Quality Management and Quality System Elements - Guidelines, Milwaukee, WI, 1987

Bishop, P.J. and R.P. Wells (1989) Cervical Spine Fractures: Mechanisms, Neck Loads, and Methods of Prevention. In: Safety in Ice Hockey. STM SIP 1050. (Castaldi, C.R. and E.F. Homer, Eds.) American

Society for Testing and Materials, Philadelphia, pp 71-83.

Dixon, J.L. and I.K.R. Brodie (1993) The New ISO Standards for Ice Hockey Helmets and Face Protectors: Moving Toward International Standards Harmonization and Conformity Assessment. In: Safety in Ice Hockey: Second Volume,. ASTM STP 1212, (Castaldi, C.R. and E.F. Horner, Eds.) American Society for Testing and Materials, Philadelphia, pp 192-213.

Francis, C.C. (1955) Dimensions of the Cervical Vertebrae, *Anatomical Record* 122:603-609.

Halstead, P.D., C.F. Alexander, E.M. Cook and R.C. Drew (2000) Hockey Headgear and the Adequacy of Current Designs and Standards, In: Safety in Ice Hockey: Third Volume, ASTM STP 1341, (A-B. Share, Ed.) American Society for Testing and Materials, West Conshohocken, PA, pp 93-100.

Maiman, D.J. et al. (1983) Compression injuries of the cervical spine: a biomechanical analysis, *Neurosurgery* 13:254-260.

McElhaney, J.H. and B. S. Myers (1993) Biomechanical Aspects of Cervical Trauma, In: Accidental Injury - Biomechanics and Prevention, (Nahum A.M. and J.W. Melvin, eds.) Springer-Verlag, New York, chapter 14, pp 311-361

Merz, H.J. and L.M. Patrick (1971) Strength and Response of the Human Neck, 15th Stapp Car Crash Conference, SAE paper 710855.

Myers, B.S., J.H. McElhaney, W.J. Richardson, R. Nightingale and B.J. Doherty,(1991) The influence of end condition on human cervical spine injury mechanisms. The 35th Stapp Car Crash Conference, pp 391-400.

Shigley, J.E. and C.R. Mischke, Standard Handbook of Machine Design, 2nd Edition, McGraw-Hill, 1996

Sunoda, T. (1962) Studies on the Strength for Compression, Tension and Torsion of the Human Vertebral Column, Journal Kyoto Pref. Medical University 71:659-702.

Tator, C.H., Carson, J.D. and V.E. Edmonds (2000) Spinal and Head Injuries in Ice Hockey - A Three Decade Perspective, In: Safety in Ice Hockey: Third Volume, ASTM STP 1341, (A.B. Share, Ed.) American Society for Testing and Materials, West Conshohocken, PA, pp 150-164.

Tator, C.H. and V.E. Edmonds (1984) National Survey of Spinal Injuries in Hockey Players, Canadian Medical Association Journal, 130:875-880.

Tegner, Y. (2000) Serious Spinal Injuries in Swedish Ice Hockey (2000), In: Safety in Ice Hockey: Third Volume, ASTM STP 1341, (A.B. Share, Ed.) American Society for Testing and Materials, West Conshohocken, PA, pp 165-172.

SUPPLEMENTAL REPORT

R. COLLINS, Ph.D.

July 30, 2002

INFORMATION AVAILABLE

1. ASTM Designation F 1045-90a
2. ASTM Designation F 513-86
3. ASTM Designation F 513-89
4. Jan. 27, 1988 Adm. Instruktor's Letter FP-02
5. March 14, 1988 letter by John Sabelli
6. March 24, 1988 letter by Alain Castonguay

The information contained in this supplemental report is based upon my recent review of additional materials. Plaintiff's counsel has asked me to review some of the documents that I understand were produced at the deposition of Mr. Sabelli. This supplement to my original report of Feb. 20, 2002 is based upon my review of the additional documents cited above.

One of the documents provided to me was ASTM F 513-86. The facemask that Levi Mohny was wearing at the time of the injury protrudes some 35 mm beyond the front of the helmet and therefore further away from the center of mass of the head than permitted under ASTM F 513-86. A similar finding was referenced in the June 25, 1998 Affidavit of Daniel Funk, M.D. I had reviewed that Affidavit at the time of preparation of my original report on this matter.

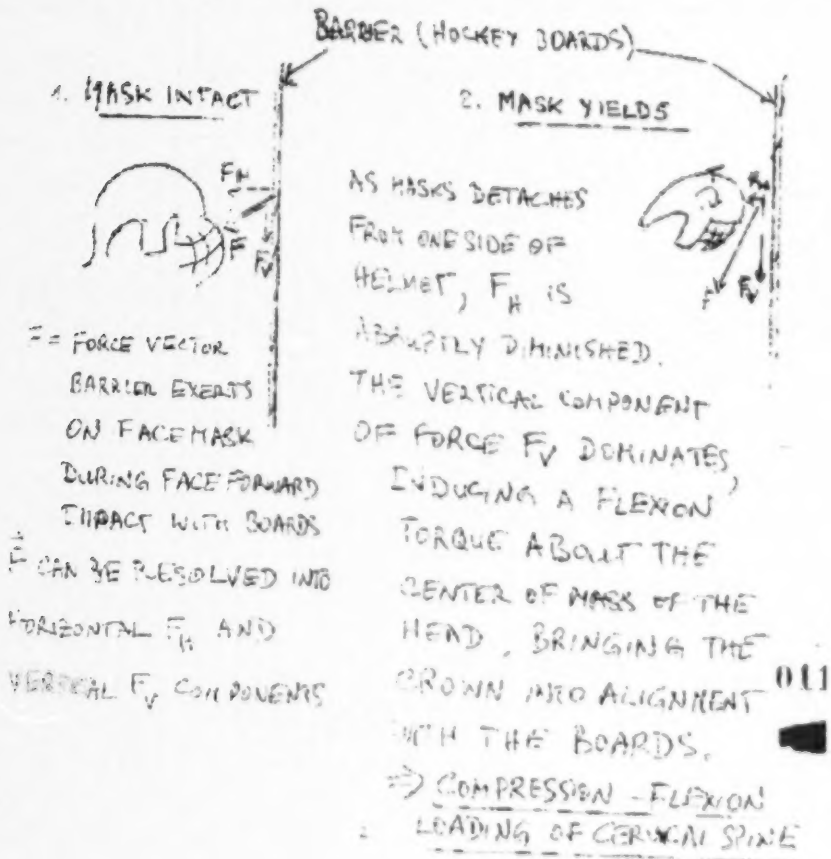
Accordingly, I agree with the general opinions and conclusions set forth therein by Dr. Funk; namely, that the combination of the subject helmet and mask assembly led to a lengthening of the effective moment



arm for the type of impact-induced torque sustained by Levi Mohnney and therefore an increase in the downward moment applied to Mohnney's head during his impact with the rigid hockey boards. My opinion, within a reasonable degree of biomechanical certainty, is that the incompatibility of the mask and helmet combination led to a re-direction of the impact forces to cause Mr. Mohnney's cervical spine injuries and permanent disability.

Following the deposition of Mr. Sabelli, Plaintiff's counsel again delivered to me the mask and helmet that Mohnney was wearing at the time of the injury. I reviewed Section 5.8.4 of ASTM Designation F 513-86. This section provides that a full type II face protector shall not extend more than 19 mm (0.8 inches) from the front of the helmet. This standard also requires that the upper part of the mask shall follow the contour of the helmet it is attached to and either overlap or be attached thereto in such a manner that the helmet will assist in impact force absorption. The subject combination does not satisfy the standard and this breach of the standard contributed to Mr. Mohnney's injuries. Plaintiff's counsel asked me to measure the distance from the front of the helmet to the front of the mask, when the mask is placed within the remaining clip on the helmet. I have measured this distance to be 35 mm, substantially more than the 19 mm permitted under Section 5.8.4 of ASTM Designation F 513-86. The mask therefore extends well beyond the maximal permitted projection from the front of the helmet. The increased projection had the effect of augmenting the moment arm and increasing the downward (flexion) torque on the head generated by forces applied to the mask during impact. This increased torque amplified

the downward rotation of Mohnney's head from the initial frontal position relative to the boards toward a crown presentation, leading to a higher component of axial loading on the cervical spine, consistent with the compression-flexion fractures reported. The resulting fractures and relative displacements of the vertebral bodies of the cervical spine appear to have culminated in Mohnney's spinal cord injury. A simplified outline of the forces exerted by the hockey boards on Mohnney's helmet-mask combination is illustrated below:



In my original report, I emphasized the importance of

warnings to the user. I have since reviewed the January 27, 1988 letter issued by the Hockey Equipment Certification Council. It is my understanding from the March 14, 1988 letter by Mr. Sabelli that Mr. Sabelli was involved with this program.

The directive of that letter sets out the requirement that the manufacturers identify which face protectors may be attached to which helmets, and that such compatibility information be clearly noted in the user's instructions supplied with the face protector. The importance of this requirement was clearly recognized and expressed in the January 27, 1988 Administrator's letter FP-02.

I also reviewed ASTM Designation F 1045-90 a. The helmet worn by Levi Mohny at the time of the injury contains a sticker referencing this standard. Section 17.1.2 requires notification that the helmet meets the minimal requirements of this ASTM ice hockey performance specification, provided it has not been reconditioned or altered in any way. Section 17.1.3 requires that instruction be given to replace the helmet after serious impact. I agree with Mr. Sabelli that the Cooper helmet did not meet the minimal requirements of these aforementioned Sections of the standard as they failed to provide these instructions.

The opinions expressed in my original report remain unchanged. The documents I have reviewed since then support my conclusions that the incompatibility and defective design of those combined products constituted an inherent danger to the user.

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RE: Levi Mohny/ SUPPLEMENTAL LETTER  
REPORT 2

Dear Attorney Jug,

You have recently requested my opinion of two articles to which you have referred me in the context of the above-referenced matter, and to the original and supplemental reports of Drs. Torg, Bishop and Thibeault, and I am pleased to respond as follows:

INFORMATION AVAILABLE

1. Article by Bishop et al. (1983) on the influence of the hockey helmet and face shield in moderating the rotation of the head during a check from behind
2. Article by Halstead et al. (2000) on the inadequacy of current ASTM and related hockey headgear standards,



notwithstanding recent advances in technology permitting much needed improvements in headgear design with a focus on safety.

3. Original report by Joseph S. Torg, M.D. dated August 21, 2002 Supplemental report by Joseph S. Torg, M.D. dated September 26, 2002

4. Original report by Patrick J. Bishop, Ph.D. dated August 23, 2002 Supplemental report by Patrick J. Bishop, Ph.D. dated September 30, 2002

5. Original report by Lawrence Thibeault, Sc.D. dated August 23, 2002 Supplemental report by Lawrence Thibeault, Sc.D. dated September 26, 2002

This second supplement to my original report of Feb. 20, 2002 and to my first supplement of July 29, 2002 contains information which is based upon my review of the additional documents cited above. A representative quantitative analysis follows.

In my first supplement, I noted that the increased torque that developed upon the detachment of the face mask from Mohnes helmet induced a downward rotation of Mohnes head from its initial face-forward orientation relative to the boards toward a near-crown presentation, leading to a higher component of axial loading on the cervical spine, consistent with the compression-flexion C5-C7 fractures reported. A qualitative description of the head rotation was set out in my first supplement. The data on the headneck segment (weight, moment of inertia, etc.) presented in Bishop et al. (1983) for the Minor Midget (age 15) category permit an illustrative quantitative description

of the head rotation process as described below.

Let us consider the following set of parameters for illustrative purposes only. In this representative calculation, we take the values of:

- $V$  = skating speed prior to impact = 7.8 mph = 11.43 fps = 3.46 m/s
- $\Delta x$  = stopping distance of Mohney's head-neck segment = 1" = 2.5 cm

It is worthwhile noting here that the above-cited value of  $V$  was determined very approximately from a cursory review of the CD-ROM from which the distance traveled by Mohney during the 10-frame sequence preceding his impact can be roughly estimated. On the basis of the above parameters, the time taken from the moment when Mohney's facemask contacted the boards to the moment at which his head stopped its face-forward motion can be approximated as  $\Delta t = \Delta x / (V/2) = 14.45$  ms. The corresponding average deceleration of the head is then of the order of  $\Delta V / \Delta t = 239 \text{ m/s}^2 = 24.4 \text{ G}$  (where  $1 \text{ G} = 9.8 \text{ m/s}^2$ ). The initial force on the head, following Newton's law, may be approximated by the mass of the head-neck segment, (estimated by Bishop et al. 1983) as 7.22 kg, multiplied by the deceleration of 24.4 G to yield a resultant average force  $F$  on the head of 176 kg applied by the boards during the time-frame of just under 15 ms after the facemask first contacts the boards. Further loading of the head occurs during the subsequent 20 - 25 ms phase as the momentum associated with the forward movement of the torso loads the spine compressively from below.

Pintar et al. (1995) presented experimental dynamic tolerance data for the human cervical spine under compression loading by testing 20 human cadaver head-neck complexes in crown impact to the head at speeds from 2.5 m/s, to 8 m/s. Mean, values for posterior ligament tears in the lower column occurred under flexion at mean values of force at failure of 3326 N.

The video of the subject hockey game, when examined frame-by-frame, shows an upward motion of the head at the time just preceding impact. Accordingly, the angle of entry into the boards is approximated as  $\alpha = 45^\circ$  and is depicted in the sketch below. The average orientation of the head-neck  $C_7 - T_1$  segment of a hockey player skating without a puck has been estimated by Bishop et al. (198) at  $\theta = 72^\circ$  from the horizontal.

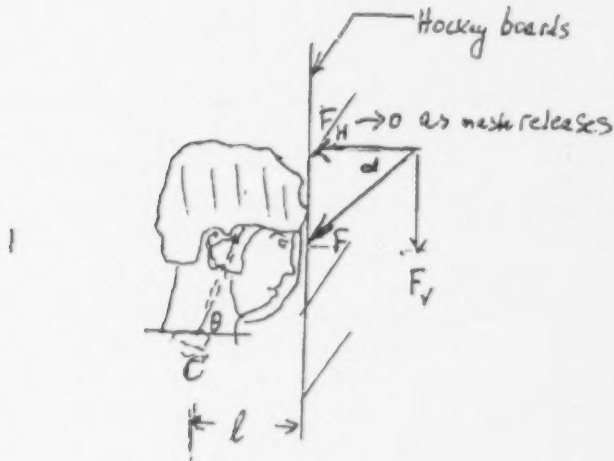


Fig. 1: SCHEMATIC OF FORCES ON HEAD-NECK SEGMENT

With these parameters in hand, one can now calculate

the dynamics of the head rotation under the influence of the forces applied to the head-neck segment as Mohnney's facemask crashes into the board at an upwardly directed representative angle of  $\alpha = 45^\circ$  as pictured in Fig. 1 above.

The force  $F$  applied by the boards to Mohnney's head during the initial phase of the face forward impact was directed primarily to the top half of the facemask, consistent with the initial value of  $\theta < 90^\circ$  as suggested by the measurements reported by Bishop et al. That resultant force can be resolved into two force components, a horizontal component  $F_H (= F \cos \alpha)$  and a vertical component  $F_V (= F \sin \alpha)$ , as indicated in Fig. 1. As the facemask detached on one side from the helmet, the horizontal force component  $F_H$  was abruptly relieved, leaving the vertical force component  $F_V$  as virtually the only dominant force remaining. That downward-directed vertical force induced a moment  $M$  on Mohnney's head, the magnitude of which can be estimated quantitatively as follows.

The torque or moment  $M$  about the point  $C$ , taken at the end of the cervical spine segment  $C_7 - T_1$  is given by the following universally recognized law of physics, equivalent to the rotational form of Newton's law of motion; namely:

$$M = I_c \frac{d^2\theta}{dt^2} \quad (1)$$

where  $I_c$  is the moment of inertia of the head-neck segment [taken as  $0.126 \text{ kg-m}^2$  from the work of Bishop

et al. (1983)] about the rotation point C and where

$\frac{d^2\theta}{dt^2}$  represents the angular (rotational) acceleration of the head relative to its initial orientation taken (from Bishop et al.) as  $\theta = 72^\circ$  from the horizontal.

One can now solve Eq. 1 in general terms for the angular acceleration of Mohny's head as

$$\frac{d^2\theta}{dt^2} = \frac{M}{I_c} = -\frac{\bar{F}l \cos \alpha}{I_c} \quad (2)$$

where  $\bar{F}$  is the average force imposed by the wall on the head during the impact. Application of the principle of conservation of energy and Newton's law yields an expression for this average force in the form

$$\bar{F} = m \left( \frac{V^2}{2 \Delta x} \right) \quad (3)$$

Two successive integrations with respect to time of the ordinary second-order differential equation represented by Eq. 2, with the initial condition of zero

angular velocity; i.e.  $\frac{d\theta}{dt} = 0$  at  $t = 0$ , just prior to release of the facemask and with an initial value of  $\theta = \theta_0 = 72^\circ$  as measured by Bishop et al. (1983), then yields the angle of rotation of the head from its initial orientation  $\theta_0$  as

$$\Delta\theta = \frac{-ml \cos \alpha}{I_c} \Delta x$$

(4)

One can now evaluate this expression using the following values of the relevant parameter values cited as adopted from Bishop et al. (1983) for a Mini-Bantam hockey player of 15 years of age, this age being closest to that of the injured Levi Mohny:

$m$  = mass of the head-neck complex = 7.22 kg

$I_c$  = moment of inertia of the head-neck complex about point C = 0.126 kg-m<sup>2</sup>  $\theta_0$  = head orientation while skating (prior to impact) = 72°

$\alpha$  = thrust orientation of head into boards = 45° based upon rebound angle (from video)

I have estimated a representative moment arm (see Fig. 1) of approximately  $l = 10$  cm (= 0.1 m) extending horizontally from the end of the cervical spine to the nose area.

The stopping distance  $\Delta x$  can be reasonably bounded at 10 cm (= 0.1 m) in conjunction with a dislodging facemask, yielding a value of  $\Delta\theta = -23.2^\circ$ . It is to be noted here that it is customary engineering convention to take the turning moment  $M$  to be positive in the anti-clockwise direction.. Hence a negative value of  $\Delta\theta$  indicates clockwise head motion, in this case, in flexion.

This additional chestward rotation of the head of  $\Delta\theta = 23.2^\circ$ , when subtracted from its initial 72° inclination, will bring the crown (vertex) area of the head into a



nearly 45° sagittal body alignment with the boards, exposing the cervical spine to an axial-flexion compression loading. During the following 20 - 25 ms, the torso will continue moving forward, entrapping the neck in an S-shaped "ducking" profile, while the forward momentum of Mohnney's body weight loads the spine from below, as the crown of the head presents directly to the boards (Bishop et al. 1989). The result is the classically observed burst fracture pattern of injuries developing in the C5-C7 region of the cervical spine with concomitant spinal cord injury leading to immediate and total quadriplegia.

In my first supplement, I mentioned that I also reviewed ASTM Designation F 1045-90a. The helmet worn by Levi Mohnney at the time of the injury contains a sticker referencing this standard. Section 17.1.2 requires notification that the helmet meets the minimal requirements of this ASTM ice hockey performance specification, provided it has not been reconditioned or altered in any way. Section 17.1.3 requires that instruction be given to replace the helmet after serious impact. I confirm my agreement with the findings of Mr. Sabelli that the Cooper helmet did not meet the minimal requirements of these aforementioned Sections of the Standard as the manufacturer failed to provide these instructions. Furthermore, Halstead et al. (2000) question the very adequacy of this and other ASTM standards as they related to hockey headgear. They point out that:

"the energy levels that hockey players face upon impacting a variety of obstacles can result in higher levels than the typical American football or lacrosse player faces. This is primarily due to the higher velocity

attainable on skates and the "rigid" structures than can be struck by a player..... These hazards include the ice, the boards....

Three basic aspects of hockey helmet design that can be improved are impact attenuation, external geometry and fit/comfort. ...rotational acceleration can also be reduced...in conjunction with improving the helmet's ability to attenuate energy ... without sacrificing performance .... Flat surfaces on helmets are simply not as effective at spreading, deflecting, or attenuating impact energies... The authors believe that the evidence is clear. Hockey headgear performance can be significantly improved without increases in cost or compromises in appearance."

It has been shown through the representative calculation detailed above that the detachment of the facemask during Mohny's impact with the hockey boards induced a strong momentary downward torque on Mohny's head during the initial time-frame after the mask made contact with the boards, causing his crown area to present to the boards and positioning his cervical spine for the very damaging compression-flexion loading that ensued during the subsequent 20 - 25 millisecond follow on. These results further confirm that it was indeed technologically and economically feasible to have designed a fully compatible helmet/facemask combination in such a manner to have prevented the spinal cord injury leading to the quadriplegic condition of Levi Mohny.

In their supplemental reports, defense experts Thibeault and Bishop surprisingly claim that the scientific conclusions based on such analysis are

respectively "inconsistent with the laws of physics" and "defy the laws of physics", yet this analysis is clearly based upon a straightforward application of the universally recognized and fully accepted Newton's laws of motion as applied to the parameter values determined by Bishop in his 1983 published work on hockey helmet/face shield-induced moments.

The chestward movement of the head as a direct result of the sudden failure (detachment) of Mohnney's facemask led to a rotation of the head into a position of flexion, not extension as erroneously surmised by all defense experts. The resulting flexural orientation of Mohnney's head predicted from this analysis is furthermore fully consistent with the compression-flexion loading and concomitant vertebral fractures of C5-C7 which ensued and which is wholly corroborated by the medical records. Mohnney's head rotation occurred within tens of milliseconds after impact, which explains why no facial injury occurred as the facemask deformed. Indeed the head had already rotated very rapidly into a forehead, and then vertex, contact with the boards before the facemask had had time to flatten.

These opinions are further corroborated upon my having viewed, frame-by-frame, the defense-produced videotape after it had been transferred to a mini-DV medium by David Stadtler of the Allegheny County Bar Association Video Services in Pittsburgh. Mr. Stadtler has personally assured me that the event was not altered in any way as a result of the transfer to the mini-DV medium. The zoomable digital record does show the dynamics of Mohnney's body as it hits the boards, along with Mohnney's upward rebound after impact, confirming that:

- a) it was indeed the facemask that first made contact with the boards during Mohny's face-first approach, consistent with my prior finding, and
- b) Mohny's initial body position approaching the boards was inclined forward and upward, an orientation that has been reasonably approximated in my simplified mathematical analysis by an upward-directed 45° approach of Mohny's head

There is clearly unanimous agreement by the reporting experts that the vertebral fractures and concomitant spinal cord injury occurred when the crown or-vertex area of the flexed head presented to the boards and the spinal column was loaded from below under the momentum of the forward moving torso. There is also general agreement concerning the time-frames during which this injury was sustained. The defense experts however all fail to acknowledge the very abrupt initial downward rotation of the head that first occurred during the face-forward approach of Mohny as his faceguard yielded. The corresponding horizontal force component was then no longer resisted and essentially disappeared, causing the remaining downward vertical force component to rotate the head towards the chest into a near crown-first presentation with the boards. The above mathematical analysis shows that the predicted 23° flexion rotation brought the head into near alignment with the body axis, preparing Mohny for the confirmed compression-flexion loading of his spine.

The resulting spinal cord injury could well have been avoided had the helmet and facemask components been compatible and had the facemask not dislodged during

its initial impact with the boards.

Defense expert J.S. Torg, M.D. brings up the important question of prevention of the spinal cord injury, claiming that "a hockey helmet and/or facemask is neither designed nor capable of protecting the cervical spine and cord from injury". He alludes to the alleged futility of accommodating an energy-absorbing protective liner within the confines of the helmet as "not in keeping with (his) experience with the more formidable American football helmet..". Dr. Torg's assertions are puzzling to say the least, inasmuch as we are dealing here with a hockey, not a football, helmet, both of which, for some good reason, are designed with energy-absorbing liners, albeit for different loading conditions. It is interesting to note that Dr. Tom, an orthopedic surgeon, "rejects" my quantitative analysis on the basis of a "well documented" (but unreferenced in his report) requirement of an 80-millisecond time-frame which he alleges "negates the impact facemask-helmet-axial load-spinal failure gymnastics scenario proposed by Dr. Collins". In fact, this time-frame can be shown to be of the form  $\Delta t = 2 \Delta x/V$ . The other defense experts and I all agree that the time-frame for injury is very likely of shorter duration.

The opinions expressed in my original report remain unchanged. The documents and records I have reviewed since then continue to support my conclusions that the incompatibility and defective design of the combined helmet and facemask unit constituted an inherent yet avoidable danger to the user.

Yours truly,  
Richard Collins, Ph.D.

## REFERENCES

Bishop, P.J., R.W. Norman, R. Wells, D. Ranney and B. Skleryk (1983) Changes in the Centre of Mass and Moment of Inertia of a Headform Induced by a Hockey Helmet and Face Shield. *Can. J. Appl. Spt. Sci.* 8(1):19-25.

Bishop, P.J. and R.P. Wells (1989) Cervical Spine Fractures: Mechanisms, Neck Loads, and Methods of Prevention. In: *Safety in Ice Hockey*. STM STP 1050. (Castaldi, C.R. and E.F. Homer, Eds.) American Society for Testing and Materials, Philadelphia, pp 71-83.

Halstead, ,D., C.F. Alexander, E.M. Cook and R.C. Drew (2000) Hockey Headgear and the Adequacy of Current Designs and Standards. *Safety in Ice Hockey: Third Volume*, ASTM STP 134J, pp 93-100. A.B. Ashare, Ed., American Society for Testing and Materials, West Conshohocken, PA.

Pintar, F.A., N. Yoganandan, L. Voo, J.F. Cusick, D.J. Maiman and A. Sances (1995). Dynamic Characteristics of the Human Cervical Spine SAE paper 952722, pp 195-202, Society of Automotive Engineers, Inc.



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CASE NUMBER: 3:97CV74

Judge Katz

UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO

LEVI MOHNEY, MARY MOHNEY and TIMOTHY  
MOHNEY,  
Plaintiffs,

v.

USA HOCKEY, INC., a/k/a AMATEUR HOCKEY  
ASSOCIATION OF THE UNITED STATES, INC.;  
TOLEDO CHEROKEES JR CLUB INC. d/b/a  
TOLEDO CHEROKEES; CENTRAL STATES  
HOCKEY LEAGUE; NORTH AMERICAN JUNIOR  
HOCKEY; UNKNOWN REFEREES, personally and  
as agents and employees of USA Hockey, Toledo  
Cherokees, North American Junior Hockey League,  
and Central States Hockey League; COOPER OF  
CANADA LIMITED. n/k/a BAUER, INC; JOFA,  
FACE MASKS d/b/a KARHU USA, INC.; and JASON  
RENEGER.

Defendants.

PLAINTIFF'S DESIGNATION OF EXPERTS

AND NOW, comes the Plaintiffs, Levi Mohny,  
Timothy Mohny, and Mary Mohny, by and through  
undersigned counsel, Fred C. Jug, Jr., Esquire and  
Brandt, Milnes & Rea, P.C. who file the following  
Designation of Expert:

1. Daniel Funk, M.D. A copy of Dr. Funk's Affidavit is

attached hereto as Exhibit "A".

2. Norman Johanson,, A true and correct copy of Johanson's Preliminary report is attached..

3. Plaintiff previously produced voluminous medical records. The experts referenced herein have been obtained to address the issue of product liability. The medical issues will be addressed by Plaintiffs treating physicians.

4. Plaintiff reserves the right to file Supplemental Reports in the time permitted by the Court.

Brandt Milnes & Rea, P.C.  
Fred C. Jug, Jr., Esquire  
Counsel for Plaintiff  
P.A. I.D. No. 58285  
1109 Grant Building  
310 Grant Street  
Pittsburgh, PA 15219  
(412) 255-6500

Case No. 3:97 CV 7417 (Hon. David A. Katz)

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
WESTERN DISTRICT

Levi Mohny, et al., Plaintiffs,

Vs.

USA Hockey, Inc., et al., Defendants.

Affidavit of Daniel A. Funk, MD

State of Ohio County of Hamilton

Before me, the undersigned Notary Public. in and for the County of Hamilton, personally appeared Daniel A. Funk, MD, who fist being duly sworn states the following be true to the best of his knowledge, information and belief;

I, Daniel A. Funk, MD, depose and state as follows:

1. I am presently of sound mind, lawful age and fully competent to make this affidavit which sets forth my opinions within a reasonable degree of Engineering and Medical certainty. The information contained in this Affidavit is based on my personal knowledge and represents my opinions in the matter that is currently before the Court
2. Attached hereto as Exhibit 'A' is a true and correct copy of my Curriculum Vitae that summarizes my professional qualifications and experience.

3. I have been asked to investigate this incident from both a medical as well as an engineering standpoint to determine and understand the cause of Levi Mohney's injuries.

4. In forming the opinions set forth herein, I have conducted an investigation of the incident that is the subject of this litigation. The investigation included a review of the videotape that was produced by the defendants, as well as a review of various pleadings, depositions, and deposition exhibits. Among the deposition exhibits that I have reviewed is the brochure on neck injuries by Mid American District Hockey. This Brochure stressed the importance of the "Heads Up" position in the prevention of spinal cord injuries. I have also personally inspected the helmet that Levi Mohney was wearing on the day of his injury.

5. In addition to examining the helmet and facemask, I have also examined the medical records of Levi Mohney as well as reviewed x-rays taken immediately after the injury,

6. The injuries that Levi sustained in the subject incident include a C5-C6 fracture dislocation of the cervical spine with resulting neurologic deficit. Levi Mohney's cervical spine injury is most commonly the result of flexion and rotation of the cervical spine.

7. The eyewitness testimony, observation of the videotape, as well as physical evidence of the helmet and facemask indicates that Levi Mohney struck the boards in a "heads up" position. After, the facemask struck the boards, the right dip fastener attaching the facemask to the helmet appears to have failed,

contributing to a consequential flexion and rotation of Levi Mohneys' head.

8. The facemask in question also extends beyond the confines of the helmet and therefore away from the mechanical center of the rotation of the cervical spine. This design of the facemask and helmet assembly would increase the mechanical leverage arm for the type of impact sustained by Mr. Mohney and thus increases the forces applied to Levi's cervical spine.

9. Within a reasonable degree of medical and engineering certainty, the design of the facemask and helmet was defective and this defect contributed to the cause and magnitude of Levi Mohney's injuries. In my opinion, within a reasonable degree of medical and engineering certainty, a facemask and helmet design that would better absorb and dissipate energy would have decreased the possibility of the injury to Levi Mohney's cervical spine. Furthermore, the design of the facemask and helmet assembly was such that even though Levi Mohney struck the boards in the "heads up" position advocated as safe by the aforementioned brochure, the energy of this blow was directed by the helmet and facemask in such a manner as to cause Mr. Mohney's cervical spine injuries.

10. Therefore, in my opinion, Levi Mohney's cervical spine injuries were exacerbated as a direct and proximate result of the design and failure of the helmet and facemask assembly.

Affiant Further Sayeth Not

Sworn to and Subscribed before me This 25th of June

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1998.

Daniel A. Funk, MD



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Robson Lapina  
Forensic Engineers Architects Scientists  
& Fire Investigators

September 7, 2001

Fred Jug, Esquire  
Brandt, Milnes & Rea  
1109 Grant Building  
310 Grant Street Pittsburgh, PA 15219-2202  
FAX: [412] 255-6504

Ref: Levi Mohny

Dear Attorney Jug:

I have received and examined the helmet, with face mask, that was used by Levi Mohny at the time of his injury.

I understand that an "Exemplar" helmet and face mask will be provided for my examination, disassembly and destructive testing. I agree to examine and test the subject and exemplar hockey head protection equipment, evaluate the design and manufacture of this equipment in relation to alternative feasible configurations, and render my expert opinion regarding safety and suitability of the subject equipment for its intended purpose. The items provide to me at this time are:

The helmet has markings identifying it as a Cooper SK 2000 L [Large size]. It consists of two molded plastic shell halves (front and rear segments that are attached at the sides by two screws which pass from the helmet

exterior through holes in the forward-most helmet segment and slots in the rearward most helmet segment, and are then fastened into plate-mounted nuts. The two nut-plates are mounted over molded-in "rails" within the rear most segment. This allows a user to adjust the front-to-rear fit of the helmet. Inside this shell are two resilient segments [front and rear] These resilient segments are adhesively fastened to thin cardboard-like strips which in turn are bolt-attached to the shell.

Also bolt-attached to the shell, one at each side, are two plastic members. The two ends of woven chin straps are attached at the lower-most end of these members. Two other straps are fastened at the rearmost bolted positions joining these plastic members to the shell. These straps thread through the side support wires of the face mask, and are tightened to hold it in place.

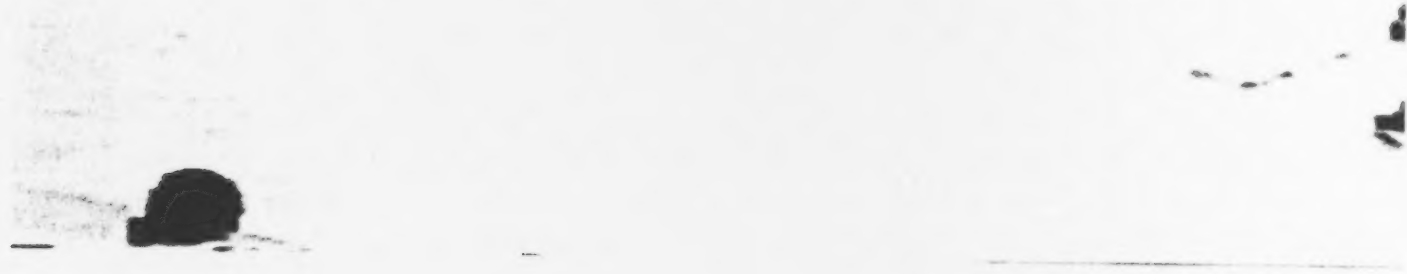
Two metal wire-holding clips are bolt-fastened at the front of the forward-most shell segment. These clips attach to the upper support wire of the face guard.

#### Face Guard

The plastic molded chin guard portion of the face mask is marked JOFA 271 SR. The chin guard is fastened at the bottom of the mask-shaped welded-wire face guard. The wire portion of the face guard consists of a wire "frame" to which are welded 6 vertical wires and five horizontal wires.

Yours truly,  
Norman W. Johanson

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